DOCUMENT RESUME

ED 358 519 EA 024 930

AUTHOR	Steinberger, Elizabeth Donohoe
TITLE	Improving Student Achievement.
INSTITUTION	American Association of School Administrators, Arlington, Va.
REPORT NO	ISBN-0-87652-175-8
PUB DATE	93
NOTE	82p.
AVAILABLE FROM	American Association of School Administrators, 1801 N. Moore Street, Arlington, VA 22209-9988 (Stock No. 21-00308).
PUB TYPE	Guides - Non-Classroom Use (055)
EDRS PRICE	MF01/PC04 Plus Postage.
DESCRIPTORS	*Academic Achievement; Administrator Role; *Educational Improvement; Elementary Secondary Education; *Performance; *Productivity; Student Motivation; Student Needs; Testing

ABSTRACT

This book examines issues and questions surrounding student achievement, combining research with practice to present an overview of current efforts to foster student learning in the United States at local, state, and national levels. Following the preface and introduction, which stress the importance of focusing on students, chapter 1 examines the various factors in defining achievement. An informal survey of school administrators indicates that most view achievement as a multidimensional, continuous, and holistic reflection of the child. Chapter 2 offers guidelines to actualize achievement, which involve energizing teaching, meeting the needs of disadvantaged children, and setting high expectations. The Transition School Project in Spokane, Washington, is set forth as an example of an effective achievement program. The third chapter examines factors that stifle achievement and focuses on stimulating student motivation. Examples of state and national level efforts are described in chapter 4. The fifth chapter discusses alternative ways to measure student achievement, and chapter 6 outlines the importance of leadership in reaching teachers, staff, and parents. A glossary is included. (Contains 48 references.) (LMI)

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IMPROVING STUDENT ACHIEVEMENT

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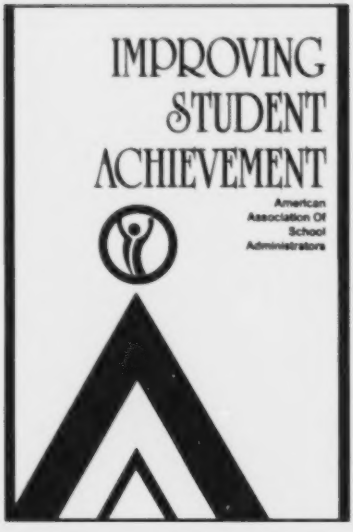

By Elizabeth Donohoe Steinberger, Ed.D.

The American Association of
School Administrators

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Library of Congress Catalog Number: 92-073478
ISBN Number: 0-87652-175-8
AASA Stock Number: 21-00308

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PREFACE

The social fabric of our country is being torn apart by dramatic demographic shifts and changes within American families. Increasingly, America's schools are being blamed as a major part of the problem.

America is an achievement-driven nation. Our history abounds with stories of women and men who have overcome insurmountable obstacles to achieve great success. Those who have risen above the depths of poverty, prevailed over a debilitating disease or handicap, and broken through barriers of bias and prejudice earn our highest respect and admiration.

Many, however, believe our status as a major world power is threatened. Various economic indicators suggest that in intensely competitive global markets, we are losing clout. At the same time, some assert that the social fabric of our country is being torn apart by dramatic demographic shifts and changes within American families.

America's scapegoat. Increasingly, America's schools are being blamed as a major part of the problem. The links among educational achievement, individual accomplishment, and success are

subjects of heated debate across the country. New studies, movements, and techniques are constantly emerging.

Interestingly, however, in a study conducted for this book, 44 percent of those surveyed said student achievement is improving, and 26 percent said it is "holding steady." Yet, all agree that improving student achievement in our nation's schools is a top priority.

What You'll Find Here

Improving Student Achievement tackles the tough issues and questions surrounding student achievement. The book combines research with practice, for an overview of what is being done to foster student learning in the United States at local, state, and national levels. The subject is vast, and many aspects of education intersect under the achievement umbrella. While not every strategy and movement could be included here, it is hoped this book will provide some practical tips for educators and others who dedicate their lives to improving student achievement.

INTRODUCTION

America's educational performance must be second to none in the 21st century. Education is central to our quality of life. It is at the heart of our economic strength and security, our creativity in the arts and letters, our invention in the sciences, and the perpetuation of our cultural values. Education is the key to America's international competitiveness.

—The National Governors' Association, National Education Goals, 1990

To a large degree, our efforts to improve educational achievement are fueled by concerns about America's economic status and the socioeconomic conditions of its citizens. The ability of American workers to gain employment, turn out high quality products, and provide themselves and their families with a healthy and comfortable standard of living depends to a large extent on the skills and knowledge they have acquired in our nation's schools.

U.S. Profile

Economic slowdown

Although Americans now enjoy one of the highest standards of living in the industrialized world, there is some evidence that this high standard is changing. For example, in 1992, the U.S. national debt totalled over $3 trillion, or triple the national debt accumulated up to 1950 and twice the total gross national product. This means interest payments on the total debt reach $20 million dollars an hour, 24 hours a day. It also means it will cost every man, woman, and child in the country $10,000 to pay off the total debt.

Social and family stresses

Along with a startling economic profile, the American family has changed. These changes have affected children—making the challenge for American educators to improve achievement even greater. Consider the following statistics compiled by Harold Hodgkinson, director for the Center of Demographic Policy at the Institute for Educational Leadership:

- The "typical" American family has dramatically changed. Nearly half of today's youth will be raised by a single parent before they reach their 18th birthday. The number of households headed by a single female has increased by over 35 percent since 1980; households headed by a single male increased by nearly 30 percent during the same period. As families split and one parent assumes responsibility for child-rearing, financial resources often are stretched to or beyond the limit just to make ends meet.
- Almost one-fourth of the nation's children 5 and under live in poverty. Millions more live at the fringes of poverty. No other industrialized nation has a child-poverty rate this high.
- Somewhere between 50,000-200,000 children are homeless. Many of these youth have been abandoned by their parents or guardians and are left to search the streets each night for food and shelter.

Consequently, our schools often are called on to do more than promote educational achievement. They are serving more and more as havens of safety and security for many troubled youth and as focal points for collaborating social and medical services among community agencies.

Changes in the workforce

The changing workplace also colors the future of American schools. The development of new products and technologies requires different skills and knowledge.

America's schools must not only target the academic achievement of future workers as a priority, but also seek ways to update the skills and knowledge of those already in the workplace.

Fewer children, higher costs

In addition, the proportion of American households with a child in public school has fallen. For example, only 25 percent of American households now have a child in public schools. Meanwhile, in many communities the cost of educating one child has quadrupled in the past four decades.

With their children grown, many "empty nesters" may no longer consider themselves primary stakeholders in their community's schools. In some instances, they may even lobby against increases in school funding when public health and other services are threatened with budgetary cuts.

For those states experiencing explosive growth, demands for new schools, new programs, and new services are straining local and state education budgets.

Forging Ahead

The reform decade of the 1980s, fueled by the national call for improved school, teacher, and student performance, sparked renewed interest in educational achievement. And even though states have traditionally avoided efforts to compare student achievement levels, they haven't hesitated to showcase bold, innovative, and comprehensive changes transforming schools and learning.

National surveys, such as the Gallup Poll, reveal positive perceptions of local efforts. In general, people tend to give higher marks to their local school and school system than they give public schools nationally. Clearly, if most view "their own" schools as doing a good job, the national picture may be colored by the media and testing data.

In any case, many communities are rallying behind schools because parents and citizens want the best education possible for their youth. They are forging new alliances, redefining priorities, reorganizing staff, restructuring programs and services, revising curriculum, and creating new assessment methods to provide a more accurate gauge of the individual needs and academic achievements of students.

Students first. To truly improve student achievement, experts concur, the student must be the primary focus of all improvement efforts.

CHAPTER 1

HOW IS ACHIEVEMENT DEFINED?

While there is a rapidly growing consensus on the need to improve student achievement, many questions remain about how achievement is defined, how it is measured, what factors enhance achievement, and what factors stifle it. As school administrators, scholars, teachers, parents, and students share their knowledge, a new framework for pursuing higher levels of educational achievement emerges.

Multiple Factors

Dennie Wolf, Janet Bixby, John Glenn, and Howard Gardner of Project Zero at Harvard University maintain that achievement information should include "levels of accomplishment, longitudinal change, and depth of understanding." Instead of highlighting large, general patterns by comparing groups of students in very broad categories of achievement, we must find ways to trace the strength and beauty of single strands of individual achievement, they say.

If educators and policymakers are going to stimulate grassroots support for raising achievement, then frameworks for reporting achievement must move beyond rankings and group comparisons and focus on actual performance and mastery of specific skills and knowledge of individual students.

Administrators Respond

While preparing this book, AASA conducted an informal survey to gauge school administrators' attitudes about student achievement trends. Respondents represented every type of district—large and small; urban, suburban, and rural. When looking at the data, patterns emerged. The survey found school administrators believe achievement:

- Encompasses student ability and performance.
- Reflects the whole child.
- Is multidimensional. Achievement is intricately related to human growth and cognitive, emotional, social, and physical development.
- Is not related to a single instance, but occurs across time and levels, through a student's life in public school and on into post-secondary years and working life.

These common threads might suggest that educators, policymakers, and the public are working on the same multicolored, multipatterned "achievement" tapestry. Yet, in many instances, it seems the tapestry design is constantly changing as new standards, mandates, expectations, and forms of assessment are spun into its fabric.

Thomas Payzant, U.S. Assistant Secretary for Elementary and Secondary Education and former superintendent of schools in San Diego, California, summed up the complexity of student achievement this way:

> "We have a different definition of achievement than we had 10 years ago, and the reason for that is...we were really focusing on basic skills, and we could clearly define what we meant by basic competency in reading, writing, and mathematics.

Today, the expectations are much higher. We want not only basic skills, but higher order skills where students can think, solve problems, analyze a situation, make decisions, and understand the consequences of their decisions. With those kinds of expectations, it is a lot more difficult to specify the knowledge, skill, and application of it that we really want.

Putting a Face on It

Inevitably, defining student achievement takes on the contours of the proverbial elephant being identified by four blind men. What one student or

one parent considers outstanding achievement may seem average to others.

In the case studies described below, Vanessa and Jason's stories show how achievement involves many factors, including feelings of self-worth, background, peer pressure, familial support, and interest in school.

Vanessa. To most, Vanessa's childhood would seem normal. Her parents had good educational backgrounds, and took an interest in her studies. She liked elementary and middle school, and set high standards for herself.

Somewhere along the way, however, her attitude changed. She lost interest in school and spent more time socializing with her friends and less time involved in school activities. When asked why her school work was suffering, Vanessa would reply, "I'm bored with school."

Was she failing school, or was the school failing her? The question is a complex one.

Jason. Jason always wanted to do his best. Learning was important to him: he often said he would rather get a "B" and learn something than take an easy "A" and skate by.

Though tests have shown that he may not be the smartest in his class, he works hard, cares about his grades and sets goals for himself. A few teachers at school have taken a special interest in him, and are committed to helping him get accepted in college even though his family is poor.

What is the special combination of factors that have made Jason a success? This book attempts to answer some of these questions.

CHAPTER 2

MAKE IT HAPPEN

No magic answers or formulas exist for producing better schools, teachers, and students, and every school district's experience is different. Many experts of school change say in most instances, success is rooted in common sense and experience.

Critical Factors

Respondents to the AASA survey conducted for this book indicated that school- and central-level administrators believe "teacher expectations and values" and "teacher attitudes and behavior" have the most extensive influence on student achievement. Another factor rated almost as highly is "student desire and self-concept."

Other factors central to improving achievement include:

- Instructional strategies
- Time on task
- Peer factors.

Factors not rated as highly include:

- School organizational structure
- School management.

Advice from the Experts

To truly improve student achievement, national educational experts say the student must be the primary focus of all improvement efforts.

Start at the beginning. Thomas Payzant believes in first establishing what it is the school or district wants students to take with them when they graduate. Comments given below and throughout the book refer to his superintendency in San Diego.

> I think you have to start by identifying what you want students to know, what you want them to demonstrate they can do in the major academic subjects, and then, establish a standard against those expectations, and that becomes your definition of achievement.

In California, I think that we have made a good start by developing curriculum frameworks in each of the basic subject areas. Now we are embarking on the next generation of our California assessment program that will...establish standards against those curriculum frameworks.

According to Payzant, it is important to convey these expectations and frameworks not only to staff and community, but to students as well:

> First, you have to have a clear set of expectations for all students, and they have to really be stated in such a way that there's no ambiguity about the fact that they are going to be rigorous. You have to make that commitment, based on the belief that all students can learn and do better than they have done in the past.

Streamlining. Reducing class size and simplifying cluttered curricula are among the ways to boost student achievement. Ted Sizer, chairperson of the Coalition of Essential Schools and Brown University professor, says simplifying the school's curricular program and implementing more collaborative teaching approaches will decentralize schools and build support for reform at the very place it is needed to succeed—at the local level.

"The absolutely essential but not sufficient first step is to drastically reduce the number of students that each teacher is expected to know well," Sizer says. Then teachers can concentrate on improving achievement.

Do unto others. Henry Levin, the Stanford University researcher who is doing work on an accelerated schools model for at-risk, low-achieving students, believes that improved student achievement must be based on the

premise of creating schools that everyone would like their own children to attend.

The proper environment. Roland Barth, Harvard Graduate School of Education lecturer, author, and former school principal, encourages principals and teachers to become leaders in creating communities of learners with:

- Safe places for reflection
- Respect for diversity
- Humor
- Low anxiety
- High standards
- Opportunities for periodic recommitment to education.

According to Helene Hodges, director of research for the Association for Supervision and Curriculum Development, "There are lots of good strategies, programs, and curricula; but it all gets down to how these impact the child in the end." The key is not only to target a group of students, but to target resources so that they will have the greatest impact on a specific student group.

Being there. According to Art Steller, superintendent of Cobb County Public Schools in Marietta, Georgia, and formerly of Oklahoma City, "The first one, and this will come as no surprise, is student attendance. The higher you can raise student attendance, the higher student achievement. The second one, again no surprise, is teacher attendance. The more the teachers are there, the better the students do."

Other factors listed by Steller include the percentage of teachers who have participated in Effective Schools research, PTA membership, and the percentage of people who come to open house events and parent-teacher conferences. While he said these "are all common sense," he emphasized that "we've actually been able to show correlations between these factors and student achievement."

Make Teaching Come Alive

No book on student achievement would be complete without a discussion of those closest to the students who have the greatest day-to-day impact on student achievement—the teachers.

While most teachers are dedicated professionals, today's society has spawned a different breed of student in many ways, and the whole area of teaching theory and practice warrants another look.

Arizona State researcher Stanley Pogrow believes improving achievement is more than just rethinking roles and responsibilities: it involves great teaching and great curriculum.

"Great teaching is teachers who know when to...let the students talk," Pogrow says. "and who know how to make what they do fun, dramatic, and alive for students.

"Traditionally, we have relied primarily on a single model of teaching, which assumes that the role of the teacher is to impart his or her knowledge to students and the role of the students is to absorb what the teacher imparts—and to give evidence that it has been absorbed by feeding discrete pieces of it back through a fairly limited kind of assessment process, says Payzant. "The most difficult part is coming up with the teaching strategies that will be varied and effective in meeting the diverse needs of students that we face in our increasingly culturally rich and diverse schools and communities."

ONE TEACHER TALKS

John Oglietti, a fifth-grade teacher at Pinedale Elementary School in Sublette County, Wyoming, offers his perspectives based on his memories as "a very alienated kid who hated teachers":

- **"I don't try to do everything, but the things I do, I try to do well."**
- **"I try to get them thinking before I take out pencil and paper."**
- **"I'm not a real nuts and bolts person. My emphasis is more on human relationships than processes and techniques"**
- **"I put responsibility where it belongs—on the kid, not on the parents, not on the school."**
- **"It's important to be honest, to model honesty. I share how I feel and get them to share, too."**

Boosting Achievement for the Poor

In improving achievement, ASCD's Hodges says children of poverty constitute an important target group because they have the farthest to go in the achievement spectrum. Ideas and strategies for improvement, says Hodges, need to be adapted to the needs of this group.

A fairly concrete profile of poor and homeless children and youth is emerging, Hodges says. The next step involves reviewing the research and asking questions such as:

- Which programs and initiatives successfully address the special learning needs of this target group?
- How have they done it?
- What are the results?
- Which programs and initiatives have not been as successful?
- What factors thwart success in helping homeless and poor children?

From the Trenches

Identifying what students should know and be able to do

As Payzant noted, improving student achievement begins with a good definition of what it means, which might vary from school to school, district to district. What *should* students know when they leave high school? How do they get from point A to point B? How will the customers, or the school, parents, community, colleges and universities, or the working world know what students can do?

Performance objectives

In Ohio, a state model curriculum in each content area outlines critical objectives at each grade level. Individual districts translate these objectives into pupil performance objectives used to meet curriculum objectives set by the state. These performance objectives, along with other instruments, also may serve as a framework for pinpointing student progress at the beginning of and at various points throughout the year.

Shake up stale curriculum. To this end, educators in Warren, Ohio, are breaking the cycle of isolation and letting go of many of the traditional expectations prescribed in the curriculum outline. Rather than blaming one another or outside factors for a child's deficiencies, teachers and other educators are sharing information about what the child can do, and taking responsibility for moving the child beyond that point. This is accomplished by developing networks among themselves that focus on the student.

Steve Buerschen, curriculum supervisor in the 8,000-student district located near Dayton and Cincinnati, encourages teachers to develop a repertoire of strategies and materials to improve student achievement. Skills clinics targeting specific learning needs, cross-group peer tutoring and a peer mentoring program, and cooperative learning activities are a few strategies Warren County teachers are beginning to use successfully to individualize instruction.

Mine hidden talents. Buerschen says a primary focus of staff development has been to tap teachers' expertise and create opportunities for them to share ideas. As a result, teachers are discussing curriculum and strategies and identifying problems with university faculty and outside consultants as they look for solutions.

For example, during day-long inservice sessions, funded primarily through grants, teachers in grade-level clusters may learn about cooperative learning in the morning. Later, they brainstorm on how the strategy might be used in their classrooms. They support each other, discuss their experiences and refine strategies. Just as teachers are encouraged to individualize instruction, professional development is tailored to meet their needs.

The entire approach of "teaching the child" and starting with where students are rather than at prescribed grade and curriculum levels requires new relationships among teachers, explains Buerschen.

For more information, write Steve Buerschen, Warren County Board of Education, 416 S. East St., Lebanon, OH, 45036; (513) 932-3851.

Follow effective schools principles

During his tenure as Oklahoma City Superintendent, beginning in 1985, Art Steller made substantial improvements in student achievement, dropout rates, and parent involvement in the 36,000-student district.

"Initially, we started building the foundation for improvement with the Effective Schools Research. Six years ago, we organized a task force that spent a year determining what was the best way of implementing this research in schools. Since then we have educated our administrators, board members, teachers, and other instructional personnel on the basic tenets of effective schools. We also have added other components to our foundation.

Incentives. In Oklahoma City, teachers were given an extra stipend for teaching advanced placement courses. Then, at the end of the year, they were paid a bonus, based on how well their students did.

ONE DISTRICT'S EFFORTS TO HELP HOMELESS CHILDREN ACHIEVE

The Transition School Project in Spokane, Washington, opened its doors to 24 homeless children in 1990. Two years later, 58 homeless children were attending the school, housed in a YWCA facility and staffed by teachers and community volunteers.

Spokane Superintendent Gerald Hester says it is not unusual for the staff to take in two or more children a day. The word has spread, says Hester, and parents are getting their children to one of several pickup points strategically located around the city.

The children, who with their families may be sleeping in old cars, under bridges, or in shelters, come to the transition school with a wide range of academic experiences.

Varying backgrounds. "Some youngsters will come in with absolutely zero background. Some come in and are quite verbal and have had some experience in schooling. Other youngsters have been in our regular schools at one time and then have been pulled out by their parents," explains Hester.

The transition school teachers and volunteers work with the children individually, trying to meet their most immediate needs. Knowing that basic personal and family needs had to be fulfilled before the children could tackle tough academic challenges, the staff provides each child a new backpack and prepares sack lunches for them to take home at the end of the school day.

While the district curriculum serves as a foundation for learning, instruction at the transition school is personalized much like individual education plans for special education students. Some students stay for only a few days; others stay for weeks. The goal is to place children in regular classrooms once the families are situated in temporary housing.

Communal family. The community, comments Hester, has responded to the personal and educational needs of these children generously and consistently. During the holidays, for instance, the employees of one store took the children on a shopping spree. Another group prepared a breakfast and provided the youngsters with hats and scarves. The support continues year-round with field trips and donations of time and special treats.

While staff got bonuses for gains, they also were held accountable for losses. "Central-level instructional staff had to give up a half-day of paid vacation if one of the schools ended up in the bottom quarter of the state's performance comparison list," Steller said.

"The students also got a bonus for how they do on the exam. For example, if they get a 5 on the AP exam, they got $300 toward a college scholarship. The incentives were funded by the school foundation and an outside foundation which gave matching money. The advanced placement program has been a big boost for the secondary level."

Staff development. "There also was a lot of time spent on instructional methods in staff development activities. And we revised our evaluation system to include the teacher's instructional methodology as a core component," Steller said.

Continuous learning. Teacher preparation and development are tied closely to student success, Steller said.

"When we negotiate with the teacher's union, we think about instruction, too. For instance, we added another line on the teacher's salary schedule for a master's degree in reading. We've also paid teachers to get their master's degree in reading by providing tuition dollars".

Review. "Another initiative has been for teachers to include a daily review in the lessons—especially in math. The teacher makes a point to review what was learned previously so youngsters can connect what they did yesterday with what they're going to do today. This made a big improvement."

Harder road. "We also increased our graduation requirements," Steller said. "Students have to take 3 years of math, 3 years of science. We added geography and economics as required courses. We eliminated the middle phase or general studies. So at the high school level, you're either in a college preparatory program or a vocational program, or in a special course of study that integrates the two yet still maintains the same requirements as the college preparatory program."

Centralizing resources. "We've centralized much of what we do in our instructional program here. In the past the district selected textbooks and then the schools would select three from the district list. Since we've gone with a single main textbook adoption in every subject, our scores have improved substantially," Steller said.

The importance of feedback. Steller described how he used the "power of information" to give feedback to schools about how they were doing, as well

as how they compared to other schools. "We have put together a statistical profile about each school. Then we have planning indicators, which identify key factors that our research says make a difference in student achievement."

With the statistical profile data, each school worked to set goals. "This is an evolutionary process that involves keeping the data, studying it, and then setting goals at the school and district levels. The district goals serve as a standard, and schools set their own goals in light of these standards," Steller said.

Each school has a school improvement committee made up of teachers, staff representatives, the principal, people from the community, and parents. This group may send out questionnaires to parents, and then it develops a five-year plan. People on the school improvement committees are trained to use the IDEA School Improvement Process. Training usually takes about two years.

Results. One school, for example, has gone from scoring in the 20th percentile to the 40th percentile on standardized tests in a period of four years. At one grade level, they raised achievement to the 80th percentile.

One school has gone from scoring in the 20th percentile to the 40th percentile on standardized tests in a period of four years.

Facing hard times. A sluggish economy forced the district to make cuts in non-instructional areas such as transportation and maintenance.

Time on task. One of the biggest things we've done to improve student achievement is to look for more time. Initially, we did all the things everyone else does to increase time on task, such as eliminating public address announcements during the day. And many of our schools have also eliminated recess. This is a local school decision, and parent reaction was okay," said Steller.

Saturday school. "After looking at using the time we have more effectively, we began to think of ways to extend learning time beyond the regular school hours. We had a Saturday school. At one session, we had 5,600 students.

There are a variety of Saturday school options. They generally offer basic skill instruction, but there are enrichment activities for our gifted students as

well. The Saturday schools operate at the local school level. Schools have to have a minimum number of students to offer a class. We also have before and after school programs for students," Steller explained.

Involving parents and the community. "We have found that the simplest strategy to get parents to come to school, especially those parents who typically don't participate, is to feature student performances. These will get parents in the schools, and then once they are there, we try to involve them in other aspects of the school, such as volunteering.

We also revitalized the PTA District Council. And we have tried to increase membership at the school level by giving workshops on how to organize a PTA, what PTA is all about, and 'how to support your school."

Steller received the 1991 Leadership for Learning Award from AASA and the National School Supply and Equipment Association.

Supporting teachers

Collaborative approach. In the San Diego schools, teachers work together to share knowledge and skills. "We are trying to encourage much more collaborative work among teachers, through teams, through inter-disciplinary courses that are taught by several people together, through some developmental curriculum in the primary, where people are starting to move away from the strict following of grade-level patterns and looking at children in terms of their developmental needs rather than their chronological age, Superintendent Tom Payzant said.

Liberate teachers. The San Diego schools are implementing an integrated reading/language arts program, which includes a core literature curriculum and "lots of writing," Payzant said. This curriculum no longer calls for the traditional three reading groups taught by the teacher every day, with a heavy reliance on drills, practice, and worksheets. Instead, children work as a whole class instruction and are encouraged to discuss what's read.

Tap into teachers' styles. "We've got a program called Turning Points, which is...an effort that takes teachers through a process where they identify their own learning styles as the first step to having a better understanding of the diverse learning styles of children in classrooms."

Through that increased consciousness about how educators learn and the variety of ways in which students learn, the district holds a series of workshops on how to develop instructional materials, organize a classroom, team with

other teachers, and develop a repertoire of strategies that suit a variety of students, Payzant says.

Eliminate tracking. Payzant said with the exception of the gifted and talented education program, his district has eliminated ability grouping, as well as the tracks for general, academic, and vocational education.

Pinpoint objectives

In the early 1980s, when Virginia Grzymkowski became superintendent of the small Plymouth school district in Terryville, Connecticut, she knew from her previous corporate and teaching experience she would have to devote a lot of energy to motivating and encouraging her staff. With a population of about 12,000, Terryville is a small town struggling economically. Residents, however, make a strong effort to support education and are highly taxed.

Although "the kids blow the socks off norm-referenced tests," there were "pockets of problems with the state mastery tests."

Grzymkowski brought in experts to work with Plymouth's veteran staff. She started off with inservices on learning styles and shifted staff attention to testing and assessment, which is moving toward performance-based models statewide.

Identify problems. Although "the kids blow the socks off norm-referenced tests," says former Plymouth Superintendent Grzymkowski, there were "pockets of problems with the state mastery tests." Teachers took a long, hard look at areas where students were not achieving some of the state mastery objectives.

"We asked ourselves what we really wanted to do—not what Hartford [the State Department of Education] wanted us to do," comments Grzymkowski.

As a result, beginning in 1984 staff in cross-grade and cross-discipline teams implemented a variety of changes in instruction that have produced dramatic results. These include:

- Shifting to a whole language approach.
- Using writing portfolios and individualizing writing instruction.

- Incorporating writing and the use of hands-on manipulatives in math as instruction moves toward problem-solving,.
- Revamping the early childhood education program to encourage more creative problem-solving, questioning, and verbal exchange.

Tangible results. In a recent longitudinal study of 17 districts in the region, Plymouth was one of the top performing school districts. Student achievement levels, according to Grzymkowski, have been significantly improving.

Since the instructional changes were made, passing rates on the state's mastery test for students in grades 4, 6, and 8 in reading, writing, and math have jumped to nearly or more than 90 percent, district figures show.

Additional information on changes to improve student achievement in the district is available by writing to the district's new superintendent Allen Frazier, Plymouth Board of Education, 70 East Main St., Terryville, CT, 06786; (203) 589-2246.

Don't overlook climate

In 1988, said Herb Torres, superintendent of Silver Consolidated Schools (student enrollment 4,200) in Silver City, New Mexico, the district's junior high school presented a tough problem. Ethnic and racial conflict and a somber atmosphere prevailed, which derailed learning.

Teachers, administrators, and parents wanted to make the school more inviting and nurturing, so they took total ownership of the plans to turn things around.

About the same time, the school system became interested in the statewide Re:Learning Project, an initiative that seeks to reform all levels of the education system from the schoolhouse to the statehouse. Torres says Re:Learning has worked as a catalyst for all the school district's restructuring efforts since 1989.

Silver Schools joined three other school districts in the state in a collaborative venture. During this time, the school system moved from a K-3, 4-6, 7-9, and 10-12 grade configuration to a K-5, 6-8, and 9-12 arrangement.

Fostering interdependence. At the district's newly reorganized La Plata Middle School, students are engaged in thematic projects involving interdisciplinary team teaching, cooperative learning, and the use of student portfolios and exhibitions to demonstrate academic achievement. For example, seventh-graders may focus on the theme of "learning from the past." In small

learning groups, they might study New Mexico's history through the lens of an environmental scientist to speculate how New Mexicans can learn from today's pollution problems. Their investigation may culminate in a group project or series of projects highlighting political, demographic, and environmental forces contributing to current state problems.

As a result of changes made in the district, Torres indicates student achievement levels have improved. The dropout rate is under 10 percent, graduation rates are nearly 100 percent and excessive tardiness problems are down, Torres said. Scores on tests measuring students' basic skills are up, and the passing rate for the state's mandatory minimum competency tests is rising as well.

For more information about efforts in Silver City, write Herb Torres, superintendent, Silver Consolidated Schools, 2810 N. Swan St., Silver City, NM, 88061; (505) 388-1527.

Consider outcome-based education

A similar reorganization has occurred in central Minnesota, where the 7,300-student district in Brainerd is moving toward an outcome-based education system at Franklin Junior High through the assistance of RJR Nabisco's Next Century Schools project. In outcome-based education, students progress not based on the amount of time they've spent "in the seat," but instead on when they've accomplished established objectives or outcomes.

No failures here. Gary Phillips, director of instruction for the school system and former Franklin Junior High principal, said the transition to OBE has resulted in a schoolwide grading scale that includes A, B, C, and Incomplete. In other words, there are no failures.

Instead of basing grades on single, one-correct-answer tests, students have multiple opportunities to demonstrate mastery of teacher-developed performance outcomes. If the student has not fulfilled outcomes by the end of a grading period, he or she receives an Incomplete. If, after five weeks, the student has still not fulfilled outcomes, he or she forfeits credit for the course.

Pilot-tested during the 1991-92 school year, the school's 970 students participated in the mastery grading program, Phillips said.

Still, the challenge in Brainerd has been how to reduce the number of incompletes at the end of the grading period. Besides offering extended learning opportunities, Franklin staff have worked hard to make sure parents

and students understand the full range of consequences for receiving a "no credit." Principal Carol Munns has sent home letters to parents and appeared in a video discussing the importance of accepting responsibility for mastery of outcomes.

A team effort. Teachers are working very closely with students and families to foster mastery of outcomes and course completion. After-school and Saturday morning study sessions provide extended learning opportunities for students. Both faculty and parents agree on the importance of moving from teacher-directed instruction to student-centered learning.

It may still be too early to tell what impact such changes are having on student achievement levels. Anecdotal evidence suggest, however, that student and parental attitudes toward OBE and interdisciplinary teaming are for the most part, favorable.

While both Silver City and Brainerd have discovered certain advantages to starting in the middle and letting reform efforts spread into elementary and high schools, they both acknowledge change is not without challenges.

Herb Torres advises school leaders to spend as much money on staff and parent training as they can afford. He also encourages involving parents early in the change process.

For more details about initiatives in Brainerd, contact Gary Phillips, director of instruction, Brainerd Public Schools, 300 Quince St., Brainerd, MN, 56401; (218) 828-5300. Or, contact Linda Gustafson, RJR Next Century Schools Project Director, Franklin Junior High School, 1001 Kingwood, Brainerd, MN, 56401; (218) 828-5210.

High Expectations

A commitment to academic achievement and a positive attitude is not uncommon among the 400 youth enrolled in the Josiah Macy Jr. program at De Witt Clinton High School in Bronx, N.Y., nor among the 4,000 students participating in Macy-sponsored high school programs across the country. The Macy program, now renamed Ventures in Education, features a school-within-a-school where staff and students create a culture of shared beliefs, norms, and expectations. Students take a rigorous academic program that includes:

- Four years of English, mathematics, science, and social studies.

CELEBRATING CULTURE

In most large cities, those who are most tragically at risk of failing or dropping out often are young, African American males. Schools attempting to raise the achievement of these students by emphasizing, rather than deemphasizing cultural differences have proven controversial. While critics call such programs racist and segregationist, advocates see gender/race specific schools as a positive alternative that promotes self-esteem.

One alternative. Nearly 170,000 youth attend Detroit public schools, but some of the most at-risk students are involved in programs with relatively low enrollments that stress individual instruction and attention to improving achievement. One of these programs is an African-centered, school-within-a-school initiative.

In an effort to empower these students, Detroit's African-centered schools push beyond the basic state-mandated curriculum to emphasize African culture and role models through its philosophy and practices. Arnold Carter, deputy superintendent for community confidence, described the cornerstone of the African-Centered school's cultural environment as "Maat," an African term that means "truth, accuracy, and balance."

In 1991, Detroit started three African-centered programs enrolling more than 500 children between grades K-5. Teachers in all three programs receive intensive staff development on integrating information about the contributions and roles of Africans into the curriculum.

For more information about Detroit's programs, write Dr. Charmaine Johnson, Research Evaluation and Testing, Detroit Public Schools, 5035 Woodward Ave., Detroit, MI, 48202; (313) 494-2251.

- Advanced placement or honors-level courses in biology, calculus, English and social studies.
- Two years of a foreign language.
- A concerted and continuous emphasis on reading, writing, and speaking skills.
- Formal preparation for college entrance and standardized tests.
- A full range of enrichment opportunities during the regular school year and in the summer.

Ventures teachers, counselors, and program coordinators do more than hold students to high academic expectations. They also carefully construct a strong safety net of support services. Before- and after-school, one-on-one teacher and peer tutoring sessions, internships, college and financial aid counseling, field trips, summer academic camps, and close home-school links keep students from slipping through the cracks.

Building relationships. Most importantly, Ventures teachers and counselors know their students personally. Their actions and attitudes tell students they want to help them understand and know their students are capable of achieving.

As a result, the Ventures program at DeWitt Clinton has shown gains in student achievement. In 1989, half of the Ventures students at DeWitt Clinton spoke English as a second language and roughly two-thirds were economically disadvantaged. Ethnically, the Venture student group was about 44 percent black, 41 percent Hispanic, and 15 percent Asian.

Of the 1990 Ventures graduates at DeWitt Clinton, 100 percent enrolled in "competitive" four-year colleges, with 70 percent enrolling in the nation's most competitive universities. The Ventures students consistently outperform their non-Ventures classmates at Clinton, as well as New York City and state peers on standardized tests.

For more information about the Ventures Program, write Maxine Bleich, president, Ventures in Education, 3 E. 28th St., New York, NY, 10016; (212) 696-5717.

What's good for the "best" is good for the rest

Deborah Verstegen, University of Virginia professor and expert in school finance and equity issues, coined the phrase, "What's good for the best is good for the rest," and Valley Stream Central High School District in Nassau County, New York, appears to be putting it into practice.

Marcia Knoll, assistant to the superintendent in Valley Stream (enrollment 3,370 in grades 7-12), said there are no lower-level, basic skills classes for students in the district's three high schools. Instead, the school system believes each student will work and achieve at his or her highest level.

Basically, the three district high schools have removed tracking, said Knoll. A rigorous academic program is required of all students. Special education students follow individualized educational programs. Knoll said, "We may slow it down, but we don't water it down." The average student takes seven

subjects a day. A full spectrum of elective courses has replaced study halls.

Attendance counts. In addition to requiring the most challenging course of study for all students, the district also has put in place a comprehensive and demanding attendance/credit policy. To receive credit, the student must be present for "no less than 80 percent of the classroom instructional time."

The strict attendance policy affects parents as well as students. When a student misses five or more classes for one course, the parent must confer with school leaders about registering the student in the district's Voluntary Compensatory Program (VCP).

Additional learning tools. The VCP, offered at various times throughout the school year, helps youth develop study strategies, problem solving, and thinking and communication skills they may have missed because of excessive absences. It is not designed for making up content-specific work. Completing required coursework and achieving mastery is the responsibility of the student, who must make special arrangements with the subject teacher.

Push-in program. But efforts don't end here, said Knoll. Children entering the seventh-grade who need academic and remedial assistance participate in the CHESS program—Content Help in English, Science, and Social Studies. Knoll explained CHESS functions as a "push-in" rather than as a "pull-out" program. Reading specialists, funded through Chapter 1, work with content-area teachers in the interdisciplinary teams to determine student needs. Then the specialists work individually with students or in small groups within the regular classroom.

These initiatives encouraging high student and staff expectations are the work of Superintendent Glenn Grube. Grube began a long-range, 10-year staff development program in 1984 to improve instructional techniques. The internally developed program focuses on effective teaching techniques, high expectations, student self-esteem, and teaching and learning styles. District staff also are concentrating on teaching information-processing skills to students.

Although math achievement has not yet improved as she hoped, Knoll said the number of students completing and succeeding in advanced-placement courses is increasing. District attendance rates at Valley Stream, which were among the lowest of the 56 school districts in Nassau County, now are in the top levels. The dropout rate continues to decline while academic expectations have increased. A majority of graduates are continuing their education after high school, she said.

Information about Valley Stream's efforts may be obtained by writing Dr. Marcia Knoll, assistant to the superintendent, Valley Stream Central High School District, One Kent Road, Valley Stream, NY 11582; (516) 872-5607.

Seek Support—It's Tough Traveling alone

When Richard Palermo came on board as assistant superintendent for Millbury Public Schools (enrollment 1,550) in Massachusetts, he looked for ways to give veteran staff a boost to improve student achievement. Hard-pressed to find the funding or the time for intensive staff development, he turned resourceful.

First, he aggressively sought grant money. The district received additional federal dollars through the Eisenhower Grants for early childhood education and other staff development initiatives. Second, he enlisted staff and school board support to persuade teachers that the non-contract time they spent attending inservice sessions would be worthwhile in terms of higher student achievement, as well as personally and professionally. For each 10-hour inservice course completed, teachers earn additional credit on the district's salary scale.

The salary credit arrangement and outside funding have made teacher training on a variety of areas such as cooperative learning, whole language, the writing process, math-science hands-on activities, use of technology, and curriculum review possible.

Besides focusing on staff training, Millbury public schools also have begun a comprehensive review of curriculum in each of the major content areas. Parents and teachers from the elementary, middle, and high school levels are participating in the process.

Although it's too early to rely on hard data from standardized tests and other formal assessments, Palermo said the district has gathered anecdotal information to show that these initiatives are having a tremendous impact on student performance.

For more information write Dr. Richard Palermo, assistant superintendent, Millbury Public Schools, 12 Martin St., Millbury, MA, 01527; (508) 865-9501.

Reform on a budget

Superintendent Alan Grossberg, of Haworth Public Schools in New

Jersey, also knows firsthand the importance of seeking help when trying to improve achievement with less.

After a failed school budget election in 1990, Grossberg searched for alternative sources of funding for instructional innovations while trying to build community support for school improvements.

Home/school partnership. Three initiatives offer promise. First, parents from the district's three buildings represent the district's 362 students in grades K-8 through the Home and School Program. The organization is involved in various community outreach efforts to build voter approval for future budget elections. It also sponsors fundraisers for teacher mini-grants and updating the school system's computer equipment and labs.

The mini-grants of between $200-$300 encourage teachers to try new instructional techniques and develop materials to enhance student learning. For instance, the district no longer purchases basal reading texts; instead teachers are using a more holistic approach to teaching reading and relying on tradebooks and hands-on reading kits they have created.

Foundation fund. Second, Haworth Public Schools is working with seven other area districts to establish an educational foundation to raise funds to buy expensive equipment to enhance student learning. Grossberg would like to use the money to have computers in every classroom, establish a library network, link math instruction with computer techniques, and get a computerized writing program.

Summer sabbatical. Finally, Grossberg accepted an invitation from the Korean Ministry of Education to spend part of a summer learning about the Korean economy and educational system at the National University in Seoul. Grossberg used the knowledge he gained at the seminar to sponsor an inservice to help his staff better understand and more effectively meet the needs of Asian and other children in the district in northern New Jersey. The Haworth student population is about 19 percent Asian.

While student achievement levels in the district have always been high, Grossberg said he believes students are becoming more literate and sophisticated in their questioning and learning skills.

For more details write Alan V. Grossberg, superintendent, Haworth Public Schools, 205 Valley Road, Haworth, NJ, 07641; (201) 384-5526.

Using Technology To Improve Achievement

The good news is that over 91 percent of the country's 15,000 school districts report using computers to improve student and staff performance. In a recent survey of 35,000 schools and 3,500 school systems, 10,000 schools report using videodisc players; 3,900 are using integrated learning systems on computers; and 3,400 report having satellite dishes for long-distance learning programs.

The bad news is that although today's advanced technology is powerful enough to revolutionize learning and link schools, classrooms, students, and teachers across the country and around the globe, the educators tapping its potential are pretty much "going solo." A report on educational technology in *Education Week* noted, "In the absence of solid research, widely disseminated models, and clear guidance, individual states, districts, schools, and teachers are being forced to explore the uses of technology on their own." Commonly cited obstacles to expanded use of educational technology range from cost and lack of teacher training to inadequate planning.

Technology pioneer. James Wilsford, an educational consultant and former superintendent of Orangeburg School District 5 in South Carolina, literally transformed Orangeburg schools through the extensive use of computers. The 6,500-student school system realized dramatic gains in student and staff performance during his tenure.

Their work in the lab was directly related to grade-level work. Trained, certified teachers in math, English, and reading managed the lab.

Wilsford's quest to transform schools using technology was not easy. Eighty percent of the students receive reduced-priced lunches. It is not an affluent school district by any means. When we started in the 1970s, 50 percent of the students were in the bottom two quartiles," he said.

Extra time on task. The school district installed IBM's Writing to Read software for all kindergarten students and compensatory computer labs for all students, so that every student below the 36th percentile could have an extra hour a day of work in math and/or reading. This hour was added on to the school day for everyone, K-12, extending the day past 3:30 p.m.

"Because we eliminated study halls, the faster students took an extra period of enrichment instruction in music, art, or vocational studies. The whole effort was to keep the students on grade level. Their work in the lab was directly related to grade-level work. Trained, certified teachers in math, English, and reading managed the lab," Wilsford said.

On the whole, the students and parents accepted the extra time and lab requirements.

In addition, Wilsford made summer school mandatory for students scoring below a certain percentile.

Summer school was tuition-free, and transportation and lunch also were provided.

In-class machines. "In addition, we integrated technology into the regular classroom. We put eight machines in each high school classroom where basic subjects are taught, in addition to the school labs. Then at the middle schools we installed sophisticated networks that transported data from the library to the classroom and back again. The elementary schools received three or four computers for each classroom," Wilsford said.

Getting teachers on line. In order for students to get the most out of technology, teachers need to be comfortable with hardware and software, as well as the use of technology for instruction.

Wilsford said the district offered to sell teachers computers through payroll deductions. "The first time we made the offer, we sold one-third of the teachers computers."

Make training a priority. In Orangeburg, Requests for Proposals included training on the equipment and software. "We also ran traditional inservice programs, some of which were for college credit. We offered to pay for teacher tuition in computer technology courses offered outside the system as well," Wilsford said.

Results. Wilsford's accomplishments are now well known in the educational field. "In 1989, less than 15 percent of the students were in the bottom quartile on standardized tests. " While only 14 percent of students were scoring above the 50th percentile when he started, in 1989 nearly 60 percent were scoring above the national average, and the student population remained unchanged.

"Computers bring all students the opportunity that, in the past, perhaps was limited to affluent, suburban children. For example, by using computer

networking in schools, we can bring every student the experience of traveling to Paris, visiting world-famous museums, and seeing treasured works of art," Wilsford said.

Feedback from the "customer." "But we also value what students have to say about these experiences. So not only is our high school program experience-based, it is also response-centered. This sets us up for portfolio evaluations; and because our system is networked, it provides a way to archive student information," he added.

Justifying the costs. Paying for expensive technology doesn't hurt when seen in context.

"Do you want to buy computers or a diesel activity bus for athletic teams? Band uniforms for a high school typically cost $80,000, and no one ever has any problem with that," he said. "In the long run, computer costs are not much more than textbook costs. If you dedicate two, three percent of your budget to technology as well as using federal and categorical state funds, then any school system with a good master plan, even a poor one like ours, can reach its goals."

Wilsford said he received help in funding the technology from vendors such as IBM.

Benefits obvious. To Wilsford, the benefits of technology should be obvious to all. "The banks know this. The factories know this. The newspapers know this. Doctors' offices know this. Everyone knows this but the people who fund schools."

Wilsford received the National Superintendent of the Year Award in 1989, an award sponsored by AASA and the ServiceMaster Co., of Downers Grove, Illinois.

State and local technology initiatives

Despite criticisms such as Wilsford's, many promising initiatives at both the state and local level to implement technology involve partnerships between the public and private sectors. For example, in 1992:

- Fifteen school districts in Texas were chosen to receive $130,000 worth of technology donated by the Panasonic Company. Two hundred videodiscs are being distributed to assist these districts in delivering the new state-approved videodisc science curriculum.
- Twenty-six school systems in New York received Microsoft Works

software as part of a school-industry partnership with IBM Corporation; Apple Computer, Inc.; and Data General Corporation.

- Educational reform legislation in Kentucky called for linking all 176 school districts and the state Department of Education. A massive electronic network will be designed for managing communication, assessment, and financial data and for programming instruction. The price tag for this will come to about $200 million by 1996. School systems are required to develop educational technology plans before receiving equipment or funding.

At the local school level, in Cincinnati, Ohio, Indian Hill School District began putting computer technology in classrooms 10 years ago. They have achieved 90 percent of their goal to equip every classroom with a computer and voice-line and to network equipment across the entire school system.

At the urging of Pecan Park Elementary School principal Bill Rhinehart, the Ocean Springs City Schools in Mississippi voted in 1988 to put computer labs in all four of the district's elementary schools. Rhinehart and the Pecan Park PTA raised over $16,000 to jumpstart efforts to acquire an integrated learning computer lab for the school. Through a community scholarship program, which helps pay for the equipment, the lab is open to families and citizens after school for adult literacy and bilingual instruction.

Global technology

At national and international levels, students in New York, New Mexico, Pennsylvania, Maine, Minnesota, and Texas several years ago started sharing their writing via BreadNet, a national computer network of English teachers. Together they have published an electronic magazine featuring the best writing of students from across the nation as well as beyond America's shores.

Students across the nation also have the chance to work with peers in other countries through the National Geographic Kids' Network. The network features activities on a variety of subjects, such as acid rain and water pollution. Children use computers to collect, process, and then transmit information. Through the network, they compare their scientific findings with classmates around the world.

Add in, not on. While there are many isolated success stories, the experts contend computers and other educational technology have largely been viewed as add-ons, not as an integral component of learning or a vital tool for managing instruction or data in schools. The Task Force on Technology, part

of the National Governors' Association concluded in its report, "Time for Results," the role of technology in restructuring schools remains elusive. NGA offers a number of recommendations for state and local policymakers to boost technology use in schools. They urge schools to support:

- Technological demonstrations of what is cost-effective and efficient for local schools, even if this means waiving state regulations.
- Educational technology research and development—both individually and via state and regional partnerships.
- The creation of market mechanisms.
- Districts in efforts to develop plans and staff training programs for the use of technology.

Certainly, support from local, state, and federal policymakers is critical to integrating technology in America's schools. Even more important is the realization that successful integration of technology requires big changes in the ways schools, students, teachers, and learning are organized. This means making changes in schedules, facility use, curricula, and people's roles and responsibilities.

OK, BUT HOW DOES IT RELATE TO ME?

Many purport to hold the magic bullet that will raise achievement for all students. But what does the "customer" think?

The following is excerpted from a 1992 *Leadership News* editorial by Charles Morton, recent graduate of Virginia Polytechnic Institute and the first winner of the 1988 Superintendent of the Year $10,000 Student Scholarship.

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The educational system is not designed to meet the needs of those who do not have the typical "mother-and-father-with-2.5 kids" image. Textbooks, starting with kindergarten picture books, depict the "ideal" lifestyle, which tends to be white and middle class. These images hold little relevance for many lives. Children need an accurate picture of the society in which they live.

Make it relevant. The best classes I have taken taught me how to think. If I gave you a state-of-the-art airplane, it would be of no use to you unless you knew how to fly it. Providing a child with knowlege is only half the purpose of an educator. The other half should be to teach the child how to use what he or she has learned.

There need to be more innovative ways to teach kids to apply knowledge. Give them tours, field trips, and hands-on experience. It may not be the algebra itself that I use every day, but the methods one uses to attack a math problem are similar to those used in real life. The x's and y's in algebra are the unknowns in life.

Make lectures interesting, using analogy. A child is better able to understand something when it is on his or her terms. Relate lessons to hobbies like Nintendo or Sega. Use rollerblades and skateboards as examples, if they will aid in communication.

College application? Sadly, the current school system does not prepare kids for the valuable experience of college. Many kids fail in higher education because they have never been given the opportunity to take responsibility. Imagine coming from an environment where everything is done for you, then being told you must plan and maintain your own daily schedule. Many have been overwhelmed trying to make that transition.

Most high school classes are not really college preparatory, unless the kids in them are deemed "gifted." Yet all kids need to be exposed to the benefits of advanced education. I would like to see high school become a huge center for college preparation, beginning in the 9th grade.

Battle ignorance. Problems of stereotyping and racism must come to an end. Early, practical and equitable education can help squelch these byproducts of ignorance.

By directly confronting the monster of ignorance, with knowledge as the sword, each educator can become a hero. We must never let down our guards, because when ignorance sleeps, apathy, and laziness are awake and seeking victims: the children.

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CHAPTER 3

WHAT STIFLES ACHIEVEMENT?

With today's high unemployment rates, as well as escalating violence, drug and alcohol usage, youth feel more and more alienated from family, school, and society. This isolation in turn causes their vision of a future to dim.

Along with poverty and other social problems, a host of school-related factors may block the path to academic achievement. Some argue that the greatest barriers to student success lie within the times we live in; and are difficult for schools to alleviate. With today's high unemployment rates, as well as escalating violence, drug and alcohol usage, youth feel more and more alienated from family, school, and society. This isolation in turn causes their vision of a future to dim.

Other barriers to achievement include:

- Rigid curricula and schedules.
- Labels that emphasize deficiencies rather than strengths.
- Rough transitions from home to school and from one level to the next.
- Inadequate counseling and social services.

- Ineffective teaching styles, excessive lecturing and testing, watered-down and unchallenging texts.
- Staff insensitivity to social and cultural differences.
- Peer conflicts, such as gang fights, which make students and teachers fear for their personal safety.

The Carrot or the Stick?

Do positive and negative reinforcements motivate students toward higher achievement?

Research suggests the real issue is not whether an incentive or punishment is more effective, but whether the motivation is intrinsic.

Jere Brophy, co-director at the Institute for Research on Teaching at the University of Michigan, cautions educators about overusing rewards. In a recent article in the Association for Supervision and Curriculum Development's *Update*, he explained that such attempts may convey the message that learning is not enjoyable for its own sake; nor is it something people would want to do on their own.

A DRIVING FORCE

Sometimes, students need incentives to maintain their interest in school and learning. In Florida, adolescents who fail to meet minimum academic standards cannot receive a driver's license. In Dade County, some 10,000 students lost their licenses for failing grades. Other states, such as Arkansas, Indiana, Louisiana, Maine, Texas, Virginia, and West Virginia, mandate or are in the process of requiring minimum academic standards of school-age drivers. (Mandates such as these are controversial, however. Some school districts, such as Dade, have found the added administration involved to be burdensome.)

The double bind—effort and ability

Research suggests individuals would rather fail because they didn't try hard enough than because they lack the ability to succeed. Conversely, people like to attribute their success to ability rather than to diligent and painstaking effort.

So what happens, then, when students are encouraged to try hard and they still perform poorly or fail? And what happens in a society that has traditionally valued hard work and effort when a student doesn't try or doesn't think "I can?"

"Within the school, the curriculum must be a curriculum of questions rather than one of answers. We have to get students in the habit of figuring things out in an informed way on their own," Theodore Sizer said. "If the point of school is to get young people into good intellectual habits, then the school has to be constantly providing opportunities for students to practice figuring things out on their own."

Within the school, the curriculum must be a curriculum of questions rather than one of answers. We have to get students in the habit of figuring things out in an informed way on their own.

Avoid blame. The key, according to experts, is not to attribute failure to the lack of ability or effort. Instead, teachers need to focus on learning strategies, processes, and task involvement.

Here are some suggestions from highly effective teachers to emphasize achievement:

- Ask students to describe how they arrived at their answers.
- Help students become more aware of their own learning styles—using their strengths to their advantage.
- Model a variety of learning strategies.
- Help students see that failure is a natural part of learning—as is risk-taking.
- Serve as excellent role models by sharing your own mistakes.
- Praise students for how they go about a task.

Stanley Pogrow emphasized that improving student achievement is the result of a lot of tinkering, determination, and details. "It's not the grand

reform," he says. "It is doing the hard work of making (schools) universally work better."

Impact of Television

What impact does excessive TV watching have on children and youth? The experts say television:

1. Engages children in low-level learning by robbing them of opportunities to create their own fantasies and form visual images independently.
2. Does little to encourage personal reflection. As passive observers, children see a wide range of human problems on TV—some problems are age-appropriate, some are not—and they are given all the solutions.
3. Affects children's attention span. Remember the 18,000 hours the average child will spend watching TV before the age of 18? These will be interrupted by some 675,000 commercials.
4. Stimulates superficial analysis and simplistic problem solving.
5. Deprives children of developing interpersonal skills and relationships with others; by fostering isolation and loneliness.
6. Exposes children to unrealistic surrogate families and role models, leading them to set up high expectations for their own parents, siblings, and friends.

On the flip side, there are potential benefits for children who watch television with adult guidance and supervision. In moderation, TV:

1. Can stimulate interest and inspire learners. Watching Olympic stars and talented artists can assist children in visualizing their own enhanced performance, for example.
2. Helps children acquire vocabulary—especially games shows and programs that feature highly articulate personalities.
3. Provides useful information. Instructional videos have been used successfully to introduce children to new experiences, such as a visit to the dentist or doctor or a hospital stay.
4. Can help extinguish fears and phobias.
5. Can encourage pro-social behavior among children.
6. Extends the immediate classroom and opens the door to new learning environments and partners.

Model good behavior

In determining whether television viewing has a negative or positive impact on learning and achievement, both parents and educators may ask themselves the following questions:

- To what degree do I supervise TV viewing?
- What are my values and preferences? How do these translate to my TV viewing?
- Do I watch TV with young people, and encourage questions and discussion about program content?
- What other sources of information and forms of entertainment are available?

Leaders Speak Out

School leaders Thomas Payzant, U.S. Assistant Secretary for Elementary and Secondary Education and formerly of the San Diego, California, Public Schools and John Murphy, of the Charlotte-Mecklenberg, North Carolina, Public Schools were asked the question, "What stifles achievement?"

Payzant:

- Low expectations.
- A lack of understanding on the part of teachers, students, and parents that there is no substitute for hard work and that you cannot meet high standards without putting forth considerable effort.
- A mismatch between the way something is taught and the way a child learns; where there has not been the proper connection to that child's learning style.
- Not understanding the connection between what motivates somebody to do something; what the incentives are. For example, students who know that they want to go to college understand the importance of taking certain courses, getting a certain grade point average, and doing other kinds of things. Students who are going directly into the world of work do not have a similar kind of incentive system because employers, other than asking

whether or not a student has graduated from high school, do not ask for any kinds of evidence of school performance.

- Failing to invest in technology. I do not think we have invested in our schools what we should have in the areas of technology, or provided, that help and support either, given what we have done in other sectors.

Murphy

- A lack of leadership in the school; such as a principal who really isn't aware of what instruction is all about or how to deal with staff members.
- The quality of teaching. If it's not there...that's going to detract from any kind of motivational impact that you would have on the child....
- The conditions under which teachers are teaching. We have got large numbers of youngsters, from varied backgrounds, with a whole variety of problems, who the teachers just can't possibly deal with.

Starting off slowly. The experiences children have before school affect their ability to excel throughout their school years. This is especially true in America, a nation ironically known as the land of opportunity, Murphy said.

"I think another important thing that detracts is that the United States is the worst of all industrial nations in terms of preschool education, as well," said John Murphy. "I think our children are coming to our schools with a tremendous range of abilities, and many of our youngsters from our poor, impoverished neighborhoods absolutely are at a tremendous disadvantage the day they arrive.

Many of our youngsters from our poor, impoverished neighborhoods absolutely are at a tremendous disadvantage the day they arrive.

I think that we need some better social policy in this nation so that we have a better system of caring for children from birth to kindergarten. That's not necessarily the schools' responsibility, but it's a governmental responsibility that we better start taking seriously."

Easy street? Murphy also decries a laxness he sees in education. "I don't think we have rigorous enough standards, instructionally, in our schools. I think that we have too little emphasis on the amount of work the child does out of school."

MIXED-ABILITY CLASSES IMPROVE LEARNING

For years, tracking has been standard practice in America's schools. Students typically are sorted into classes based on age and ability during elementary school, and many remain in these groupings throughout their school years.

But recent studies indicate tracking may actually impede achievement among students in low-ability classes, which frequently contain large numbers of poor, minority children.

In some districts, eliminating tracking generates heated controversy. For teachers, heterogeneous grouping means increased responsibility that comes from working with students on a more personal level. Many parents also believe multiability classes will lower standards for advanced students and make things even worse for at-risk students.

Sharing Strengths

Across the country, however, schools are successfully using mixed age and ability classes to improve student achievement:

- At Willard Junior High School in Berkeley, California, 170 students from all ability levels participated in an interdisciplinary English, history, math, and science program. Students in the heterogeneous classes, including those previously tracked at lower levels, demonstrated impressive achievement in writing assignments and class discussions. Visitors to the classes couldn't tell the "high students" from the "low students."
- Classes at Louis Armstrong Middle School in East Elmhurst, New York, have been heterogeneously grouped since the magnet school was established in 1979. Depending on their interests and talents, 6th graders participating in one learning program worked in multiability groups to create a new civilization, including its language, music, and housing.
- When Parkway South High School in Manchester, Missouri, began heterogeneously grouping its English classes, students were reading anywhere from the 3rd- to 12th-grade level. Today, a vast majority of students are passing the regular English classes. A special tutorial program provides an additional hour of one-on-one instruction to any student struggling in the traditional English class.

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CHAPTER 4

EFFORTS ON THE STATE AND NATIONAL LEVEL

More and more, talk in state legislative chambers seems to downplay mandated procedures and regulations in favor of performance-based outcomes that better reflect what students know and can do.

State Mandates and Reforms

Discussions about the elements of school improvement are being recast to involve collaboration of multiple agencies along with schools. Some of the most prominent and popular state-level efforts include:

- Increased accountability and alternative, performance-based assessments.
- Greater emphasis on learning outcomes.
- Higher standards and expectations.
- Core curriculum planning and review processes.
- Increased use of technology for instruction and classroom-school management.
- Firm commitment to learning readiness through the expansion of pre-kindergarten and child-care options.

- Strong call for greater parent and community involvement in efforts to improve schools and student achievement.

While there are a wide range of state strategies to encourage educational reform, observers agree "there is no one best way." Demographics, governance structures, resources and traditions play a critical role in shaping state-level strategies to improve student achievement and school performance.

Alabama

The Alabama Education Improvement Act of 1991 calls for a broad range of education reform initiatives. Those targeting local school performance and student achievement include:

- ***Performance-based accreditation***. Schools are graded on how well they meet 50 standards in areas such as student assessment, curriculum development, class size, community involvement, at-risk guidance, and counseling.
- ***Local needs assessment***. Every three years, school systems are required to complete a self-study.
- ***Comprehensive status reports***. Local districts must compile annual performance reports for the state board and the public.

In addition, the state board has revised the student assessment program. It now includes performance tests that require students to apply knowledge and skills in real life settings. Statewide curriculum revisions infuse higher level math concepts such as statistics, probability, algebra, and geometry. The state Department of Education also has sponsored regional teacher workshops in mathematics and instructional strategies.

Another initiative, Project Asset, calls on alternative instructional strategies geared to individual student learning styles, teacher collaboration, and cooperative learning to improve math and science achievement for at-risk students. Teachers at 10 demonstration sites have been engaged in extensive professional training and networking to share problems, solutions and successes.

For more information, contact Martha Barton, assistant superintendent, Alabama Department of Education, 50 N. Ripley St., Montgomery, AL; 36130-3901; (205) 242-8154.

Colorado

Colorado was the first state in the nation to adopt the national education goals announced in 1991.

The state now is offering incentives for school change, encouraging partnerships to improve performance, granting waivers, and supporting six state-level task-force coalitions. The coalitions will review legislation and regulations in six target areas including student achievement.

Recently revised accountability legislation requires districts to establish systemwide and building-level advisory committees that define goals and plans in alignment with state objectives to improve graduation and attendance rates and student achievement.

The Colorado State Board of Education also has established goals regarding graduation rates, attendance rates, and student achievement. The state board defines student achievement as:

> An expected or anticipated knowledge, skill, attitude, or behavior resulting from a planned instructional program, the attainment of which can be demonstrated through discernible or measurable outcomes.

Colorado's three student achievement goals call for:

1. The state's public school system to demonstrate continuous, measurable, and significant gains in education achievement for all student groups.
2. Local school districts to define clearly student proficiencies at designated grade levels and develop a way to measure and report on how well students attain these proficiencies.
3. High school graduates to receive a diploma certifying they possess the skills needed to enter the workplace and post-secondary education. These skills are determined by the local board of education.

Indicators of goal achievement address the importance of closing performance gaps based on racial, ethnic, and gender differences. Colorado reports annually to the public on statewide educational performance and district-level progress toward state goals.

More information about Colorado's initiatives may be obtained by contacting Jim Scamman, Colorado Department of Education, 201 E. Colfax Ave., Denver, CO, 80203; (303) 866-6641.

Connecticut

Improving the quality of teaching and assessment processes has been the focus of state initiatives to improve student achievement in Connecticut. Through inservice training, mentorships, new evaluation processes, and the development of alternative student assessments, teachers have become actively engaged in reforming education.

A specific focus of state reform has been involving teachers in the development and use of performance-based assessments in writing, math, and science. For both teachers and students, assessment activities become learning events integrating skills, knowledge, and problem solving, while deepening students' understanding within a particular content area.

Other state reform efforts include compiling district and school profiles that serve as public report cards and providing technical services to urban districts.

For more information, contact Joan Baron, director of the Connecticut Mastery Test Program, Connecticut Department of Education, P.O. Box 2219, Rm. 340, Hartford, CT, 06145; (203) 566-5454.

Idaho

In Idaho, each school district is required to issue its own "report card" to the community. The state has developed curricular goals in mathematics, language arts, social studies, and science. Work is beginning on the development of performance-based assessments and a long-range strategic educational plan. The statewide testing program includes standardized achievement tests and a performance-based writing assessment at certain grade levels. The state, through incentive grants, also is encouraging districts to revamp early elementary education by eliminating grade levels, reducing class size, and retraining teachers. Graduation requirements based on achievement test scores and student performance on the writing assessment also have been established.

For additional information, write Daryl Loosle, associate state superintendent, Idaho State Department of Education, Jordan Office Building, 650 W. State St., Boise, Idaho 83720; (208) 334-2111.

Kansas

The state Board of Education has outlined specific performance objectives as part of the statewide Quality Performance Accreditation System. The initiative focuses on skills, attitudes, and disciplines that students will need to live, learn, and work in a global society. Schools are accredited through a process that focuses on student performance standards.

State standards envision annual increases in achievement on both writing and math assessments across all student groups. Multiple assessment techniques, including criterion-referenced tests aligned with the curriculum, are being implemented.

Besides outlining performance standards as part of the state's accreditation system, the Kansas board also has developed a plan that specifies strategic directions in education for the 21st century. Other state initiatives include the Educational Excellence Grant Program for at-risk student programs, the Mathematics Improvement Program, and a comprehensive system of personnel development.

For further information, write Sharon Freden, assistant commissioner, State Board of Education, 120 E. 10th, Topeka, KS, 66612; (913) 296-2303.

Kentucky

Public schools in the state have implemented fundamental change through the Kentucky Education Reform Act of 1990. Components of the landmark education reform act include:

- Early childhood programs with school-based family resource centers offering parent counseling and referral services.
- A new accountability system that stresses student outcomes and performance standards, school improvement, and school/community reporting.
- Revamping curricula to reflect student outcome goals and an emphasis on higher order thinking skills and problem-solving; and the development of original instructional materials to replace texts.
- Ongoing professional development in school-based management and other areas.
- A five-year technology plan that features technological teacher work stations, statewide networking systems, videodisc and computer software

and hardware, facility renovation for technology use, and distance delivery systems with cable, microwave, and satellite televising equipment.

A state incentive system rewards schools that have demonstrated improvement over two-year periods. Schools that do not measure up are declared "in crisis," and certified staff are placed on probation. If improvement is not forthcoming, parents have the option of transferring children to another school with the school system bearing transfer and transportation costs.

For more information about Kentucky's reform package to improve student achievement, contact Mary Dean, Director of Communications, Kentucky Department of Education, 500 Mero Street, Frankfort, KY, 40601; (502) 564-2000.

Michigan

The Michigan 2000 Strategy and recent legislation supports a core curriculum for all school children and outcome-based accreditation for schools. The curriculum requires specific, measurable outcomes, focuses on academic achievement, responds to demands of the workplace, and stresses higher order problem-solving skills. The core curriculum also must ensure local autonomy, flexibility, and equal educational opportunity for all children. Besides specifying outcomes in particular content areas, attendance rates, and school climate, other indicators of school success will be reviewed as part of the school accreditation process.

Other strategies are:

- An assessment program aligned to the core curriculum that includes alternative and more authentic forms of evaluating student achievement such as projects and portfolios.
- Initiatives for young children such as extended day kindergarten for at-risk children, tutoring services, family education, and support services.
- Local school-based improvement initiatives that incorporate site-based decision making, allow autonomy in staff development, offer school bonuses and alternative routes to teacher certification, enlist technology and the private sector as valuable resources, and create new relationships among school staff, the state Department of Education, and universities.

Additional information may be requested by contacting Bob Harris, Department of Education, P.O. Box 30008, Lansing, MI, 48909; (517) 373-7802.

Tennessee

Tennessee 2000, the state's blueprint for improving educational achievement, highlights assessment and outcomes rather than educational processes.

Accountability is the cornerstone of Tennessee 2000. The strategy outlines clear performance criteria and lines of authority and responsibility to measure how students, teachers, principals, and board members are doing their jobs. Student test results are used for diagnostic purposes. The plan includes an exit exam for graduating high school seniors.

Tennessee 2000 and recent state education legislation propose:

- New governance structures including school-based decision-making initiatives.
- A comprehensive report card for each school system.
- Tough sanctions for school systems that do not meet standards.
- Funding for high tech classrooms and staff development to help teachers learn to use equipment.
- Reduced class sizes across all levels.
- Required academic core subjects for the first two years of high school.
- Revised high school curricula to eliminate general paths leading to neither college nor the workplace.

Besides changes in assessment, school governance, accountability, and academic requirements, proposed reforms for state funding include incentives for school systems exceeding performance standards.

To request further information, contact Sidney Owen, director of public information, Tennessee Department of Education, 140 Cordell Hull Bldg., Nashville, TN, 37219-0375; (615) 741-7027.

ARE COMPETENCY TESTS THE ANSWER?

In recent years, the use of competency tests across states and localities has increased. These tests establish proficiency levels and sometimes determine whether students are promoted to the next grade level or retained.

But researchers at the University of Virginia and Arizona State University found competency tests often serve more as "political and symbolic gestures than as instrumental reforms."

The study does raise a number of important questions for state agencies and local districts embarking on or already committed to raising competency standards:

- Do standards reflect how much students should know or how many students should pass? Will minimum competencies shape maximum expectations?
- What "safety nets" are there for students in danger of failing? Are certain students exempt or allowed to substitute other evidence of proficiency? Are students allowed to retake the test?
- How will testing efforts be sustained over time?
- Have competency instruments and procedures been reviewed for racial, gender, and ethnic bias? What impact have competency standards had on minority achievement?
- How will competency standards be perceived by educators and the general public? Will they serve in more than a gatekeeping or rhetorical capacity? How will such initiatives affect schools, curriculum, classrooms, and instruction?

In essence, say the researchers, there is clearly the need for continued research on the impact of competency testing and raising academic standards.

—"Standards of Competence: Propositions on the Nature of Testing Reforms." *Educational Researcher*, (November 1988): 4-9.

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Vermont

Vermont reform initiatives set high performance standards for all students, staff, parents, and community members. According to performance targets developed by the state board in 1991:

- Student performance will improve by 20 percent over a five-year period as measured by the state's assessment program and other valid instruments.
- Eighty percent of all children under six will have access to high quality early childhood services by 1994.
- Fifty percent of professional staff and school board members were trained in educational goal setting and strategic planning by 1992.
- Eighty percent of Vermont communities were to have developed educational goals and targets by 1993, and 80 percent will have developed partnerships among educators, parents, and businesses to improve learning by 1995.

To meet these performance targets, Vermont educators have developed a multi-component, performance-based assessment system in writing and math for grades 4 and 8. In addition, citizens and educators are collaboratively creating the Common Core of Learning, which specifies the knowledge, skills, and values to be achieved by all students.

School improvement efforts have been encouraged through challenge grants provided by the Reinventing Schools for Very High Performance Program. State regulations are being waived in exchange for guarantees of higher student performance.

More information may be requested by contacting Kathleen Moore, public information office, Vermont Department of Education, 120 State St., Montpelier, VT, 05620-2501; (802) 828-3135.

West Virginia

West Virginia's efforts to improve student achievement grew out of a grass-roots effort to seek broad public input on six educational goals.

State priorities include:

- Learning readiness for students entering first grade.

- Equal educational opportunities for all children.
- Student performance meeting or exceeding national averages.
- A 90 percent high school graduation rate and increasing number of graduates entering post-secondary education.
- Functional literacy among all working-age adults.

The committee also carved out six vital areas for education reform, developed comprehensive strategies, and offered recommendations for legislation and implementation. Recommendations included establishing pilot schools and developing performance-based assessments based on student portfolios and demonstrations.

For more information, contact Beth Vorhees, Department of Education, 1900 Kanawha Blvd. E. Bldg. 6, Rm. 252 , Charleston, WV, 25305; (304) 558-2699.

Putting National Policy in Place

Policy development is a process that begins with the careful analysis of current levels of performance and the targeting of specific problems, said Richard Wallace, former Pittsburgh superintendent. It is a process that requires the full discussion of priorities and values in order to reach genuine consensus, build support within the community, and utilize existing and new resources effectively.

Competing policy values. Historically, educational policy in the United States, at national, state, and local levels, reflects a series of trade-offs among four competing values: efficiency, equity, liberty, and excellence.

Blueprint for action

Legislative policy provides a blueprint for achievement levels. These include decisions about educational funding, school governance, staffing, curriculum development, instructional programs, school support services—and student achievement.

America 2000, for example, outlined a national education strategy to improve student achievement. The National Council of Teachers of Mathematics and other groups also are generating new student performance goals and assessment standards.

DOES HISTORY REPEAT ITSELF?

This is an age of indiscriminate and unwarranted faultfinding with the schools

In 1893, The Committee of Ten on Secondary School Studies issued a report in reaction to the strong public dissatisfaction with the nation's schools. Coincidentally, during this period, said Thomas Sergiovanni and colleagues, the schools were being held responsible for all of society's ills. Then, too, America's international competitors—Japan, Korea, France, and Germany—were seen as threats to our national security because of their advanced educational systems.

An editorial written in 1887 claims, "This is an age of indiscriminate and unwarranted faultfinding with the schools and teachers. The schools are being held to be responsible for all the evils now existing or anticipated..."

The reforms advocated by The Committee of Ten in their 1893 report are, in many ways, very similar to those outlined in the 1983 report, "A Nation at Risk," and in current state initiatives. Former President Ronald Reagan's blue ribbon task force called for a return to the basics, increased requirements, standardized curriculum, more time in school, and enriched educational programs.

As such, the recommendations reflect the historical roots and ongoing problems that have dominated American educational policy for over a century. The 1893 and 1983 reports both advocate a more unified curriculum and single measures of excellence rather than curricula and assessment methods that respect student diversity.

Today, a more balanced view is gaining widespread support. In highly effective schools, Sergiovanni said, values, beliefs, purposes, and mission statements are tightly structured, but there is great flexibility. In these learning environments, the emphasis is shifting from prescribed content and methods to outcomes and accomplishments.

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Professional Organizations Develop Achievement Goals and Standards

In a broad-based, collaborative effort to help local teachers and administrators improve student achievement, a number of national education organizations are creating new frameworks for curricula, providing assessment prototypes, and articulating standards of what students should know and be able to do in particular content areas.

- ***The National Council on Education Standards and Testing.*** A 32-member, congressionally-mandated group that includes educators, business leaders, and public officials, proposed the development of new student performance standards and assessment systems to replace achievement expectations they say are "simply too low."

  Progress is already under way for standards in English, science, mathematics, history, and geography. Educators in other disciplines also are working on curricular goals, new assessment frameworks, and student performance standards. Here is a brief summary of the efforts of various organizations at the time of the printing of this book:

- ***The National Council of Teachers of Mathematics.*** In its cutting-edge document, the NCTM "Professional Standards for Teaching Mathematics" outlines 24 standards of good teaching for students including:
  — Learning in cooperative groups.
  — Relying on student logic and evidence to verify results rather than depending on the teacher as the sole authority for right answers.
  — Developing mathematical reasoning instead of memorizing formulas.
  — Applying mathematic problems to real world situations.
  — Having access to calculators and computers.

- ***The National Council of Teachers of English.*** The "English Coalition Report" assesses students' language needs and charts future directions for teaching English. NCTE recommends:
  — Students learn language through an interactive process that includes talking, thinking, reading, and writing.
  — Classrooms become communities of learners where students work

cooperatively and teachers coach and model critical techniques and attitudes for learning language in real-life contexts that involve making choices about language use.

— Teachers experiment with alternatives to basal readers.

— Teachers use a variety of assessments: portfolios; extended oral and written responses to reading; holistic, analytic, and primary trait scoring; and one-on-one conferences.

AMERICA 2000

In April 1991, then President Bush presented America 2000, a national strategy to help educators, citizens, policymakers, and whole communities achieve the six ambitious national education goals. Key elements of America 2000 are:

- World class standards for what students should know in English, math, science, history, and geography.
- A series of voluntary, nationwide examinations, called the American Achievement Tests, to measure U.S. student progress toward meeting world-class standards.
- Regular report cards to show how students and states are progressing toward meeting the goals.
- School choice for all American families. Proponents of America 2000 believe it will give parents more options to meet the needs of children.
- Skill clinics to help adults find out what they need to learn and where to learn it.

—Source: U.S. Department of Education

For more information on national standards, call (800) USA-LEARN or (202) 401-2000 in Washington, D.C., and the surrounding metropolitan area; or write the America 2000 Field Office, U.S. Department of Education, Room 4141, 400 Maryland Ave., SW; Washington, DC 20202.

- ***The National Arts Education Accord***. A consortium of art, music, theater, and dance teacher organizations, the accord calls for a balanced, comprehensive, and sequential program of instruction in each of the arts. This program should represent 15 percent of the total instructional program, and be taught by qualified instructors with knowledge of the areas.
  NAEA also expressed concern about the integration of arts with other disciplines. According to NAEA policy, the arts must maintain their integrity and be taught for their own sake, rather than serving as aides to instruction in other content areas.

- ***The National Science Teachers Association***. *The Content Core: A Guide for Curriculum* serves as a scope and sequence guide for curriculum development and assists individual teachers in improving classroom instruction. A key recommendation of NTSA is to develop courses that integrate the sciences taught over a period of several years.

- ***The National Committee on Science-Education Standards and Assessment***. This task force was established to coordinate the efforts of NSTA, the American Association for the Advancement of Science, and science educators from other national organizations in setting achievement standards for the discipline.

- ***The National Council on History Standards***. Representing educators, scholars, and administrators, the council is seeking input through a broad-based national forum to define what a "historically literate" public school graduate will know and be able to do.

CHAPTER 5

MEASURING ACHIEVEMENT

Tests should become a diagnostic enterprise rather than a judgment enterprise.

—Harold Howe

Rethinking Standardization

Whatever purposes assessments are designed for, the most useful aspects should be their use within a school, says Harold Howe, of Harvard University. "Tests," he says, "should become a diagnostic enterprise rather than a judgment enterprise."

Many believe standardized evaluations do little to reveal the depth of a student's understanding, the quality of previous or later efforts, or the ability to synthesize experiences and generate alternative solutions.

Furthermore, not only are standardized evaluations developed by test manufacturers who often lack personal knowledge of and involvement with students, but neither students nor their teachers have access to the original testing instrument once it is turned in for scoring, so it has little bearing on later learning.

A new paradigm

Part of the problem in implementing new frameworks that highlight performance, according to Bruce Goldberg, director of the Center for Restructuring at the American Federation of Teachers, is that in the past educators have tended to separate instruction from assessment, learning from achievement. Yet, said Goldberg, we are now attempting to join these two perspectives by designing achievement assessments that are instructional devices for the individual student, as well as accountability instruments for a broader audience.

Most important, perhaps, as educators and researchers look toward more authentic forms of assessment, is the notion that numerical scores or percentile ranks are not the end-all measuring stick of what a student has gained from school.

"Attitudes about learning that emerge from the learning process may be just as important as specific assessments of what students have learned," says Howe. The basis for testing should be developed with an understanding of what is important to learn, not just to memorize discrete facts or to use as comparisons, he added.

From testing to assessment. Dennie Wolf, Howard Gardner, and their colleagues at Harvard University agree that society must undergo a wholesale transition from a "testing culture" to an "assessment" culture. Such a transition involves more than changes in method and technology, however; it requires rethinking basic notions of intelligence, learning, and testing that have dominated schools for decades.

Research and practice confirm that sorting students on the basis of ability test scores is not only personally destructive, but prevents those who previously may not have had adequate academic preparation from acquiring important higher order skills and knowledge critical to achieving success.

The Narrow Lens of Standardized Tests

Whether or not educators agree with this practice, the fact is the public generally gets its impression of student achievement through tests, including local, state, and national assessments.

Some feel that these norm-referenced, standardized tests serve as a broad representation and provide information on student performance trends across specific grade levels and within particular content areas.

National experts often frown on standardized tests, however, believing they are too simple a gauge to assess achievement. Instead, they agree that creating an atmosphere where student learning is valued and encouraged is a more effective way of improving achievement.

The biggest problem with the present drive to measure student achievement is that it is "a narrow measure of what happens in school," said Harvard's Howe. "It overlooks all the influences in the life of the test-taker, he says.

Benchmarking advantage. Assessment can, however, provide valuable data to be used for improving schools and student achievement, according to Murphy:

> As we examine a school, we are looking at growth. We create baseline data, then look for growth in each one of those schools.
>
> As we take a look at the individual students, we can make comparisons to other students at that grade level. We know what the level of performance is, and then, as we measure the progress of each school, we give them expectations that we expect the school to meet. It may be, for example, that we expect an 80 percent proficiency for students in their school, or 80 percent of the students to be at a level of proficiency that we set up on the test.

America's Report Card

A popular gauge of student achievement for national reformers and policymakers is the National Assessment of Educational Progress, often referred to as "The Nation's Report Card." Since 1969, the U.S. Department of Education has assessed performance of a representative sample of over 120,000 American students in 11 subject areas, and issued more than 200 reports on student achievement at selected age and grade levels.

In 1991, former Secretary of Education Lamar Alexander declared that, based on the most recent NAEP results, "Students today know as much as their parents did 20 years ago...but that's not good enough. The world they are growing up in has changed."

A closer look at the data reveals that while student performance overall has remained fairly stable, scores for minorities have risen. Yet despite this good news, student achievement must improve, some experts say.

At the same time, there are calls for voluntary, national tests that would offer a clearer picture of student knowledge and achievement. Critics of these tests

say that kind of aggregate measurement would nationalize the curriculum and violate a tradition of local school control.

However, Howe doesn't dismiss the notion. "National testing that leads students to show what they know in certain areas could be made to work," he said. But Howe worries that the high cost of such tests, coupled with concerns over comparable validity, would lead to a competitive system that may adversely affect poor and disadvantaged students.

International Comparisons

American students aren't just competing with each other in the public eye. International comparisons have sparked alarms that U.S. students are falling behind Japanese and other students from industrialized nations in many subject areas.

Although questioned by some, international comparisons in science and math raise more serious questions about our nation's educational achievement. Results on the International Assessment of Educational Progress and other cross-national achievement instruments are perhaps even more distressing than NAEP outcomes.

During the early '90s, American children appeared to lag in some publicized international assessments. For example, American 13-year-olds trailed their counterparts in selected nations on the IAEP in science and math. On the Second International Science Study, U.S. students ranked no higher than eighth out of 12 places across all subject areas and age groups. Performance on the Second International Mathematics Study put American students at mid-range or worse.

But, Henry Levin, Stanford University researcher, believes international comparisons of students are not very helpful or useful in improving achievement. He and others say direct assessment of students' capabilities is more important than how a student ranks compared to counterparts in Japan or other industrialized nations.

"The best ways to assess achievement are to get to know every child and every child's abilities and to interact with that child rather than have some kind of abstract, multiple-choice test at the end of the year, with results you get back the following year," Levin said.

Beyond Traditional Testing

In order to address the call for more accurate assessments of progress, a number of states are developing new forms of assessment. Teachers in Vermont, for example, assess student portfolios in writing and mathematics. In Connecticut, educators are breaking new ground with performance-based assessments in science and mathematics.

Ideally, these alternative forms of assessment become learning experiences, explains Connecticut State Assessment Specialist Joan Baron. They blur the edges of instruction, curriculum, and assessment and contribute to a deeper understanding of material, adds Baron.

This approach should be the goal of testing, according to superintendent Murphy. "I personally believe that if the test isn't for the purpose of improving instruction, then we shouldn't have the test."

Develop standards and policy. The challenge for state reformers committed to improving academic performance is to move beyond legislation mandating statewide testing and establish more gatekeeping competency standards. Testing and more testing, contend many educators and policy analysts, does not improve performance. While assessment is a critical component of accountability, states need to develop coherent and comprehensive educational policy for school improvement and educational achievement.

NEW CRITERIA

A new assessment framework and technology must:

- **Engage students, teachers, parents and citizens in active debate about standards and indicators of progress.**
- **Capture the multidimensional nature of learning—the student's craft in gathering, organizing, synthesizing information.**
- **Value cooperative efforts of students working in learning groups as well as the solo efforts of an individual student in search of an answer or solution.**
- **Build on past experience and knowledge.**
- **Be closely aligned with what is being taught and what is important to learn.**
- **Meet the pressing demands for equity, efficiency, and evidence by articulating rigorous standards and clear indicators of progress.**

Add in time. Boosting student achievement and measuring progress also will mean a radical change in how resources are allocated, experts agree.

For example, portfolio assessments, while more fully demonstrating what a student has accomplished, are time-consuming for teachers to compile and assess. Much more thought is required to plan and process these types of assessments than easily gradable multiple-choice or "bubble" tests. More training of school staff may be required, as well.

"The shift in assessment will involve a significant shift in resources," said Ted Sizer, "and the most important resource will be time if this portfolio (assessment) system is going to be of any merit."

Invite public scrutiny. In practical terms, Sizer said schools must be clear about educational standards, keep good student files, and allow parents to look at those records. Schools also should publish annual reports and hold public meetings to discuss issues and ask questions of school leaders the same way companies hold shareholders meetings.

CHAPTER 6

AIM HIGH: LEADERSHIP IN PROMOTING ACHIEVEMENT

For school leaders today, the challenge of creating new schools and structures; developing new methods and technology; and forging new paths in curriculum, assessment, and accountability demands courage. It also requires vision and creativity, compassion and caring, and knowing when to push hard and when to gently persuade.

Scholars who have studied leaders both tout and trivialize their importance and influence. School leaders are expected to be catalysts for change and builders of consensus, brokers of power and enablers for empowerment, instigators and follow-through artists.

To be sure, school leaders are not hesitant to call for changes that promise to improve student and staff performance. And, it appears there is no lack of understanding about the dichotomous nature of leadership to foster change. But what, specifically, can a leader *do* that will facilitate change and make a marked difference in how people perform?

Articulate the Challenge

School leaders today must be able to communicate the importance of schooling and the value of educational achievement to diverse groups within the community and to individuals that represent a wide range of educational experiences and accomplishments.

Effective school leaders find ways to stay in touch with parents, students, teachers, staff, and citizens who do not have children in schools. They must listen, learn, and understand different cultures and expectations. They must hear what people have to say in their own words.

When school leaders know what is important to their community and are able to reinforce shared values, they can communicate and lead the challenge to improve educational quality and achievement.

Rethink Roles and Responsibilities

Basic school power structures and roles and responsibilities are changing, note a number of scholars. Replacing the traditional, top-down, competitive notion of control is a new image of power that is facilitative, entrepreneurial, and transformational—and at the heart of many restructuring initiatives designed to improve instruction and student achievement.

As a result, teachers, staff members, parents, and, in some communities, students, are participating more fully in school decision making and governance.

If restructuring initiatives are really going to improve student performance, school leaders need to find out what people do best, publicly and personally recognize this, and let them do it. Individuals are more willing to take risks when they feel confident and when they know they have something of worth to contribute to the change process.

Change takes time. School leaders also should recognize that change and progress do not come quickly or easily. People need opportunities to try out new roles and work with new people in different settings.

Former classroom teacher, principal, and superintendent Joanne Yatvin offers additional advice. She tells school leaders to stand back and let people resolve their own issues—even if it means they "reinvent the wheel." In an *Education Week* commentary, she writes, "You have to reinvent, whether you want to or not, because nobody else's wheels will work on your wagon.

"Ultimately, the only way to improve American education is to let schools be small, self-governing, self-renewing communities where everyone counts and everyone cares," she said.

John Murphy, superintendent of Charlotte-Mecklenberg, North Carolina, Public Schools, agrees:

> I think we have made a serious mistake when we put all of our teachers and all of our schools in lock-step and expect everybody to be doing the same thing at the same time....By giving individual schools a great deal of autonomy, we're suggesting they begin to try things differently, take some risks, make some mistakes—but "do what you think needs to be done in your best judgment at the schoolhouse level to be responsive to children in your charge," and give them the kind of resources they need to get that work done.

Finally, school leaders must not leave out the most important reasons for restructuring—students. School-based management, shared decision making, revised curricula, alternative methods of assessment, and new technology will improve learning outcomes only if their implementation and integration are rooted in our deepest concerns and highest hopes for children, youth, and humankind.

Asa Hilliard, noted author on multicultural issues and a professor at Georgia State University, noted, "Deep restructuring is a matter of drawing up an appropriate vision of human potential, of aiming for the stars for the children and for ourselves academically and socially."

Break Down Barriers

If there is one predominant theme surrounding school reform and restructuring to improve achievement, it is replacing the walls that have separated teachers, principals, parents, and students for so many years with bridges.

Once the barriers come down and people start talking to each other, practitioners across the country realize they don't always agree. Still, conflict can improve performance by:

- Clarifying expectations, roles, and responsibilities.
- Improving decision-making and problem-solving.
- Encouraging self-evaluation and insight.
- Fostering adaptation and innovation.

TIPS FOR SHARING STUDENT ACHIEVEMENT INFORMATION

1 Target the discussion or report for your particular audience. Ask yourself:
What do they already know?
What will they probably want to know?
What should they know?
How can I get them to want to know more?
2. Briefly describe data collection methods and what they tell and don't tell about student achievement.
3. Outline criteria for analysis and standards of progress.
4. Interpret student performance in plain, easy-to-understand language and with simple, easy-to-see charts and graphs.
5 Explain how school staff use achievement information.
6. Describe the next step—what will be done to maintain current levels and improve.
7. Always share fully, openly, and honestly without being defensive or downplaying the importance of assessment results.
8. Invite comments, observations, and questions. Build ownership and commitment.

Target the Right Players

In many communities across the country, improving student achievement is a seasonal topic of discussion. It buds each spring when students take standardized tests, bursts into full bloom when the scores are made available to parents and the public, and fades away as more pressing issues—such as budget, school boundary changes, or substance abuse—dominate the educational landscape.

Clearly, if school leaders are going to make student achievement the focus of public attention, mobilize resources, and encourage partnerships to

support improvement initiatives, they must begin targeting all of their "publics," including teachers and support staff, parents, the community, and students.

Teachers and Staff

Teachers and staff are the "information vaults" of schools. Their knowledge and expertise are critical to improving student achievement.

"The real trick for the leadership of a district or school is to be constantly looking for these sparks (of change) and looking for them all over the place," Theodore Sizer said. "And when the spark seems constructive, to fan it into a flame."

"What all this adds up to is drastic decentralization of the support of reform, and the reform is only going to take if it is at the student level," he explained.

One of the first things schools can do to improve student performance is to engage staff and community representatives in an "achievement" needs assessment. Richard Wallace, former Pittsburgh superintendent, advocates a thorough review of current student performance trends, including item analysis on standardized tests.

In Pittsburgh, every school has an instructional cabinet made up of senior teachers and teacher-leaders at the various grade levels and in different content areas. The cabinets are responsible for conducting needs assessments and developing annual building-level improvement plans.

Schools also need to provide opportunities for employees to share their ideas, strategies, and accomplishments. Weekly staff bulletins, computer networks such as electronic mail, special celebrations to highlight improvements, and staff meeting agendas that build in time for talking about successes and concerns show teachers and support personnel that their input on how to improve achievement is highly valued.

Another thing schools can do is offer employees training on why improving achievement is important and what resources are available. For example, inservice programs might include:

- Information from a local needs assessment on student achievement trends and reports on regional and national achievement trends;
- School demographic data and information collected through parent and community surveys reflecting public perceptions of school and student performance.

- Clarification of staff roles and how they can foster community support for initiatives to improve student performance.
- Identification of communication channels or networks and how to use them to share information about student accomplishments.
- Specific examples of articles in employee newsletters and local newspapers that highlight student achievements.
- Media tip sheets and strategies for directing reporters' questions to focus on issues related to improving student performance.

Parents

Not only do parents possess a wealth of valuable information about their children, they also can link young people to the real world. Their knowledge of career areas, technical expertise developed on the job or through a hobby, and even their memories of growing up during a different time offer a reservoir of firsthand information about a wide range of topics.

Parents need to know first and foremost that they are valued as partners in student achievement. Parents as partners can contribute information and share responsibility for their child's achievement, writes Sheila Wolfendale in *Parental Participation in Children's Development and Education.*

"There are hundreds of schools and thousands of teachers engaging in successful practices to involve families of their students. Their work is often unknown and unrecognized even in their own districts—sometimes, in the case of teachers, even within their own schools.

Most schools and teachers, however, have not taken significant steps toward building partnerships with families. In most schools, some parents are informed about some things some of the time by some teachers. Families still feel 'lucky' when teachers inform them about and involve them in activities with children."

—Joyce Epstein, Co-Director of the Center on Families, Communities, Schools, and Children's Learning.

Mutual accountability is a key element in Hartford, Connecticut's, Saturday Academy, which has offered classes in math, science, oral communication, and computers for seventh-graders since 1984. Students, who are chosen from seven middle schools in the city, are required to bring a parent or other important adult to at least four of the nine Saturday sessions scheduled each semester. The adults work with the students in class for part of the morning before they convene for their own workshop on special topics of interest.

Indeed, the roles and responsibilities of parents in schools have expanded in recent years. James Comer at the Yale University Child Study Center believes parents should participate fully in all aspects of school life—especially decision making and governance. In Comer's democratic school setting, parents, teachers, and specialists work together to foster the child's social, emotional, and academic growth.

Experts on parent involvement contend that parents can play a variety of roles in contributing to student achievement, including:

- Resources
- Researchers
- Publicists
- Decision makers
- Advocates
- Volunteers
- Audience members
- Teachers
- Role models.

Bring the School to the People

But parent involvement doesn't just happen. In fact, the stresses on today's families often leave adults little time or energy to participate.

"The time and focus that all adults have for their children has completely shifted," said Harvard's Harold Howe. "The school is where the kid is 'findable.' Thus, schools must often serve as the communication hub between school personnel and families."

A recent ERIC publication on parent involvement offers a number of suggestions for encouraging participation—especially for single and working parents; or non-English speaking, minority, and poor parents:

- Increase awareness and sensitivity of school staff about parents' time constraints. Give parents plenty of notice about conferences and meetings so they can make arrangements to attend.
- Provide parents with brochures outlining suggestions for effective conferencing. These often are available through the National Education Association, the National PTA, and other groups, or they may be produced locally through the collaborative efforts of teachers and staff.
- Schedule parent meetings and student awards assemblies in the evening so working parents can attend. Enlist a youth service group such as Girl Scouts or Boy Scouts to assist with child care.
- Organize before-school activities for children, and early morning coffees so parents can talk with teachers before going to work.
- Extend school and staff support by establishing local neighborhood learning centers in storefronts, churches, and recreation halls.
- Open school facilities for late-afternoon and evening community activities.
- Give parents blanket permission to visit schools any time. Encourage them to observe classes, use the library, or talk with counselors, teachers, and administrators.
- Organize support groups for teen-, single-, working-, and custodial-parents.
- Establish bilingual hotlines for parents. Provide written translations of school newsletters and parent tip sheets. Print all school signs in languages spoken by school families.
- Provide work space and a place to store materials for parent volunteers.

According to Murphy, schools can begin building linkages with parents starting with the birth of their children. "We have a program where we're going to begin to identify all of the babies born in the community, then interact with their parents in terms of letting them know where they can get resources to do a better job of rearing that child."

Caution. School leaders and staff should be sure to have plenty for parents to do. It's one thing to encourage parents, another to really welcome them and provide them with in-school opportunities. Some parents complain that even though they want to be involved they feel school staff are threatened by them.

Non-parents have a stake, too. Whether they have children in schools or not, all community residents should know the value of their property and the general economic health of their community depends largely on the quality of local schools.

Local businesses support education through taxes, too, and expect schools to provide them with skilled and knowledgeable employees.

At Hammond Junior High School in Alexandria, Virginia, some students are already learning what it is like to be part of the workforce. The Partners in Education initiative has involved the Bureau of Naval Personnel, Southland Corporation, Virginia Power, and other public and private sector groups to improve student achievement and the quality of instruction by sponsoring student internships and offering career counseling since 1989.

Schools must not only provide reliable information about student needs and current achievement levels, they must also be able to demonstrate the impact community contributions have on school and student performance.

However, one of the major shortcomings of the estimated 73,000 school-business partnerships currently on record is a lack of accountability. Most assessments, note a number of evaluation experts, deliver highly descriptive and anecdotal evidence. While success stories are an important ingredient for building and sustaining community support, there is also the need for data on student performance and comparisons over time and across control and experimental groups.

Besides demonstrating the impact community contributions have had on student achievement, schools enlisting community support must take special care to match volunteer interests and talents with appropriate tasks.

Personalize Staff Development

John Murphy says schools should respond to the individual professional development needs of staff:

> For many years, too many schools tried the "wholesale" staff development approach: "All third-grade teachers are going to come and take a staff development course in the teaching of reading," for example.
>
> We have eliminated our staff development staff: we have cut it down to one person. Now, that person is a broker, and that person's responsibility is to respond to the requests that come from the individual schools, and go out and broker the kinds of services we can now be delivering right to the schools and the particular needs of the teachers within that school.

GLOSSARY

Community outreach
Programs building support for local schools by inviting members of the community to serve as information resources and volunteers, and involving staff and students in community service projects.

Cooperative learning
Organizing students into work groups for activities and projects to build teamwork, collaboration, and problem-solving skills. Helps students learn effective interpersonal skills and develop positive peer relationships.

Demonstration/exhibition
Assessment strategy requiring students to show what they have learned through artistic performances, oral presentations, or live scientific experiments. Rather than relying on paper and pencil tests, teachers may videotape or tape record demonstrations to review progress.

Hands-on learning
The use of instruments, equipment, and materials to measure objects, perform tasks, or simulate real-world experiences. For example, students may design, make, and fly paper airplanes to learn about air currents, air density and the principles of lift and drag rather than reading about them in a book or seeing them in a film.

Homework hotline
A school-home communication strategy which enables teachers to record homework assignments on an electronic telecommunications/voice-mail system that students and parents can access after school hours.

Individualized educational program
Initially a component of special education programs, IEP's are now being required for all students in some districts. The IEP outlines student interests, strengths, and problem areas as well as specific strategies and recommendations to foster growth and accomplish personal and district educational goals.

Interdisciplinary teams
Encourages teachers from different content areas to coordinate instructional activities, usually around thematic units. For example, history and literature teachers coordinating a unit on America's immigration period may also seek the cooperation of the math teacher who might focus on demographic statistics. Within a discipline such as science, high school teachers of biology, chemistry, and physics may engage in intra-disciplinary teaming by developing units/courses around a single theme like the interaction of organisms and their environment.

Learning/teaching styles
Preferred or characteristic behaviors that help teachers and learners understand how they perceive, interact, and respond to each other and their learning environments. Styles are often based on cognitive or information processing traits, affective or personality/ emotional differences and physiological or physical capacities and surroundings.

Mastery learning
Emphasizes a high level of skill accomplishment and understanding of concepts. Just as the apprentice masters the skills and knowledge of a particular trade or craft, the student masters specific skills and demonstrates understanding of certain concepts considered important by educators, policy-makers, parents, and the community.

Manipulatives
Concrete objects used to help students understand abstract concepts. The Chinese abacus is a manipulative. Pennies, seeds and toothpicks may also be used to help children learn to count, add, and subtract. Hands-on learning often involves the use of manipulatives.

Multiage grouping
Assigning students of different ages to the same classroom and teacher over a period of years. The approach offers flexibility in grouping children according to readiness and ability and an alternative to the traditional practice of age-grading or organizing children by birthdates.

Peer tutoring
Students who have demonstrated proficiency assist those who are having difficulty with a concept. Cross-age tutoring enlists older students to help younger ones. Cross-group tutoring pairs students' master skills and concepts quickly with those who may need more time. Peer tutoring may be a regularly-scheduled school activity or used as needed in classrooms.

Problemsolving
Often referred to as a higher order thinking process. Students may work in groups or alone through the process, which involves identifying and defining the problem; collecting, analyzing, organizing, and synthesizing information related to the problem; proposing and working through a range of possible solutions; and deciding on the best solution. Problem-solving actively engages students in real-world challenges and stresses creative and analytical thought processes.

Portfolios
Files of student work collected over time. Student compositions, artwork, homework, math problems, and lab sheets, as well as other exhibits may be kept in portfolios. An alternative form of assessment, portfolio reviews are conducted regularly and apply specific criteria to evaluate student growth and progress.

Push-in program
An alternative to programs that pull students with special learning needs out of the classroom for instruction and remediation. A push-in program puts the special resource teacher in the classroom to work closely with the regular classroom teacher in tailoring instruction for several special-needs students.

Open-ended assessment
Evaluation problems structured so students may apply a variety of approaches in reaching a solution. Students are asked to show how they arrive at the solution and explain its application to the immediate problem and other similar situations. Open-ended assessments are usually scored by a scale or rubric.

Performance objectives
Descriptions of what students should know and be able to do as a result of instruction. Emphasis is on students being able to demonstrate what they have learned. Objectives may be global or very specific and stipulate mastery of particular skills and concepts at a specific curricular level.

Rubrics/scales
Assessment criteria organized according to increasing levels of student proficiency. Rating scales and rubrics are often used to evaluate and compare student performances, demonstrations, and portfolios.

School-within-a-school
An educational program that enlists instructional and support staff to serve a particular group of students within the context of a larger school. A high degree of collaboration and coordination among teachers and cohesiveness among students are characteristic of the school within a school. Such arrangements often foster more personal attention and greater flexibility in meeting student needs because there are often fewer bureaucratic obstacles.

Whole language
An integrated approach to teaching language arts drawing on the natural connections among speaking, writing, and reading. Students learn to read by using their own written and dictated stories as text. Instruction is geared to the interests, experiences, and language abilities of students.

Writing process approach
While traditional writing instruction has focused on the completed composition, this approach emphasizes the process of composing. Instruction highlights strategies for working through different stages of the writing process from generating and refining topics, analyzing audience needs and interests, brainstorming, and organizing supporting material to drafting and revising written pieces.

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ACKNOWLEDGMENTS

The American Association of School Administrators would like to thank all those school leaders and education experts who contributed to this important endeavor.

AASA is grateful to all the people at State Departments of Education and in local districts who took the time to share their thoughts, comments, suggestions, and questions. Because of their willingness to participate in a national survey developed for this book and in intensive phone interviews, the text is much fuller and richer.

AASA also thanks school leaders including Thomas Payzant, U.S. Assistant Secretary for Elementary and Secondary Education; John Murphy, superintendent in Charlotte-Mecklenberg, North Carolina; Arthur Steller, superintendent in Marietta, Georgia; James Wilsford, retired Orangeburg, South Carolina, superintendent; and others interviewed in the trenches for the real-world application and wisdom of their words.

AASA also would like to thank Helene Hodges, director of research at the Association for Supervision and Curriculum Development; Theodore Sizer, chair of the Coalition of Essential Schools and Brown University professor; Henry Levin, of Stanford University; Harold Howe and Roland Barth, of the Harvard Graduate School of Education; and Joan Baron, Connecticut State Assessment Specialist.

Improving Student Achievement was written by Elizabeth Donohoe Steinberger, Ed.D. Steinberger obtained her doctorate in administration and supervision from the Curry School of Education at the University of Virginia. She wishes to thank John Rankin and Jennifer Steinberger for interviews and analysis, as well as her friends and colleagues in Loudoun County, Virginia; Littleton, Colorado; and the University of Virginia, Charlottesville, Virginia; for their contributions and support.

AASA Senior Associate Executive Director Gary Marx served as project director. Education writer Joni Lucas edited the manuscript, with editorial and production assistance from AASA editors Leslie Eckard and Jay Goldman. Anita F. Wiley provided graphics and design.

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